



UNDER THE PATRONAGE OF



ICMM CIMM: International Committee
of Military Medicine (ICMM)

HELLENIC NATIONAL DEFENCE GENERAL STAFF

The background of the poster is a composite image. On the left, there is a large, classical marble statue of a woman in a long dress, likely Athena, standing in front of the Zappeion Megaron, a grand neoclassical building with a colonnade of white columns. On the right, there is a close-up of a doctor in a white lab coat holding a stethoscope, examining a soldier in a camouflage uniform who is also holding a stethoscope.

6th ICMM PAN EUROPEAN REGIONAL CONGRESS ON MILITARY MEDICINE

16–19 April 2024

Zappeion Megaron | Athens Greece

www.6thicmmathensgreece.com

SCIENTIFIC PROGRAM



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6th ICMM PAN EUROPEAN REGIONAL CONGRESS ON MILITARY MEDICINE 16–19 April 2024 Zappeion Megaron | Athens Greece

WELCOME MESSAGE



*Generals, Admirals, Air Marshals,
Distinguished members of the Military Medical Community,
Dear colleagues,*

*I am Rear Admiral Antonios Papageorgiou HN and in my capacity as Surgeon General of the Hellenic Armed Forces I would like to invite you to the **6th Pan European Congress on Military Medicine** which is going to be held in Athens from **16th to 19th April 2024**.*

COVID-19 pandemic already postponed twice the aforementioned Congress but now the Military Medical community has the opportunity to gather together in order to exchange knowledge and experience regarding all aspects of Medical science.

ICMM, from its establishment back to 1921 till now acts as the ideal platform for cooperation and collaboration between the participating countries. As a multinational initiative, aims not only to enrich scientific and training activities of the participating nations' Military Medical Services but furthermore to strengthen the relations and communication between the military medical personnel of our countries.

Through ICMM channel, the military health communities wherever the world, are given the opportunity to strengthen their relations and exchange knowledge and experiences in a joint effort to promote and develop the Military Health Services of our countries.

The 6th Pan European Congress on Military Medicine is an important link in the chain of cooperation between our countries in the military health sector and which we hope will be enriched and further strengthened.

Athens, birthplace of democracy, philosophy and science will host the 6th Pan European Congress on Military Medicine logging for the most fruitful outcome.

Apart from scientific debates the participants will have the opportunity to discover the Athenian antiquities such as Acropolis with the temple of Parthenon, feel the warmth of Greek hospitality and enjoy the soft and pleasant weather during the Greek spring.

I am fully convinced that the 6th Pan European Congress on Military Medicine will not only meet but far exceed the qualitative expectations and standards of ICMM, giving the opportunity to military Medical personnel to increase and broad its academic and operational knowledge through scientifically sound round tables, workshops and lectures.

With these thoughts and the true belief that ICMM will continue to assist our countries in terms of ensuring the health of our soldiers, I'm looking forward to meeting you all in Athens in April 2024 where the 6th Pan European Congress on Military Medicine will definitely serve in the most appropriate and fruitful way in exchanging ideas and practical experience in the military medical operational field.

*Rear Admiral MD **Antonios Papageorgiou HN**
Vascular Surgeon
Surgeon General of Hellenic Armed Forces*



ONE DROP CLOSER TO THE FUTURE

The Motor Oil Group, with 75% exports to over 75 countries, is implementing the largest energy transition plan in SE Europe.

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SCIENTIFIC PROGRAM

TUESDAY 16 APRIL 2024

MILITARY MEDICAL TRAINING

15.30-17.00 **MILITARY MEDICAL TRAINING AND RESEARCH IN GREECE - RT1**

Chairpersons: A. Papageorgiou (GRC), D.T. Boumpas (GRC)

History of Hellenic Military Academy of Combat Support Officers

M. Zidrou (GRC)

Academic studies and Military training in Hellenic Military Academy of Combat Support Officers

I. Kazakis (GRC)

History of Hellenic Military Nursing Academy

S. Papaioannou (GRC)

Academic studies and Military training in Hellenic Military Nursing Academy

E. Koukiotou (GRC)

Challenges and perspectives of Military Medical Schools' training program

G. Katsifis (GRC)

Discussion

TUESDAY 16 APRIL 2024

MILITARY MEDICAL TRAINING

17.00-18.00 MILITARY MEDICAL TRAINING AND RESEARCH IN GREECE - RT2

*Chairpersons: D. Kassimos (GRC), S. Tsiodras (GRC),
P. Kostopoulos (GRC)*

Current structure of Medical Corp and Joint Military Medical Activities
in Hellenic Armed Forces

S. Tsantouklas (GRC)

Military-Academic/training and research Medical Activities

- Land Forces: RN, DVM
V. Trimmis (GRC)
- Hellenic Navy: DD
D. Stavropoulos (GRC)
- Hellenic Airforce: MD, PHARM
P. Makras (GRC)

The Belgian Military Medical Service : Recruitment, education
and training of Military Health Care Professionals

B. Demuyck (BEL)

Initial and continue training of medics and paramedics in French SSA

G. Pelée de Saint Maurice (FRA)

18.00-19.00 OPENING CEREMONY

Moderator: U. Farasteli (GRC)

LECTURE

Hippocratic Medicine through the ages

A. Diamantis (GRC)

19.00-19.30 DEMO HELLENIC MILITARY NURSING ACADEMY

19.30 RECEPTION

6th ICMM PAN EUROPEAN REGIONAL CONGRESS ON MILITARY MEDICINE 16–19 April 2024 Zappeion Megaron | Athens Greece

WEDNESDAY 17 APRIL 2024

CIV-MIL COOPERATION

08:00-09:00 **ORAL PRESENTATIONS I (01-06)**

Chairpersons: E. Rokka (GRC), F. Psarros (GRC)

01 LOW BACK PAIN AND RELATED DISABILITY IN HELICOPTER PILOTS: A SURVEY OF PREVALENCE AND RISK FACTORS

Lt Col Stylianiides Georghios MBChB, MHealSc, MOSH, DAvMed, DOc-cMed, FRAeS

CY National Guard Mil Med Service Directorate, Nicosia, Cyprus

02 DIAGNOSTIC AND THERAPEUTIC CHALLENGES IN A MILITARY RECRUIT TRAINING CENTER OF THE HELLENIC NAVY: A RETROSPECTIVE ANALYSIS OF THE POROS REGISTRY SERVING AS PRACTICAL GUIDANCE FOR MEDICAL OFFICERS

Lieutenant Jr Papazoglou Andreas, MD, MSc; Athanaseas Ioannis, DDS; Fousekis Konstantinos, MD; Kasotakis Nikolaos, MD; Kolokouris Spyridon, MD; Zisakis Thomas, MD; Kyriakoulis Konstantinos, MD

Athens Naval Hospital, Athens, Greece

03 PRINCIPLES OF THE PRE-HOSPITAL WARTRAUMA MANAGEMENT AND TREATMENT INTEGRATED WITH AI AND MACHINE LEARNING UPON 5G INTERNET NETWORKS TO SUPPORT THE GOLDEN HOUR PRINCIPLE AND OPTIMIZE OUTCOMES IN CIVILIAN TRAUMA SURGERY

Mammas S. Constantinos MD Msc PhD Consultant Surgeon^{1,2}, **Mamma S. Adamantia** MEng, PhD (BMEng)¹, **Saoulides Demetrios** MD (Director Anesthesiologist)²

¹Program of Excellence 2014-16 of the Hellenic Ministry of Education, Research, Innovation, ²General Hospital of Kalymnos

05 DEMOGRAPHIC AGEING AND ICU COST IN MILITARY HOSPITALS: AN EMERGING PROBLEM

Mastrogianni Maria¹, **Galanis Petros**², **Siskou Olga**³, **Kaitelidou Daphne**⁴, **Katsoulas Theodoros**⁵

¹Major, Department of Health Policy, Ministry of National Defense, Athens, Greece, ²Assistant Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece, ³Assistant Professor, Department of Tourism, University of Piraeus, Athens, Greece, ⁴Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece, ⁵Associate Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece

WEDNESDAY 17 APRIL 2024

CIV-MIL COOPERATION

06 INVESTIGATION OF NURSES' PSYCHOSOCIAL RISKS IN THE WORKING ENVIRONMENT IN GREECE

Malliarou Maria¹, Kallia Georgia², Karkanti Iasimi³, Kouroutzis Ioannis⁴

¹Professor of Nursing, lieutenant colonel ret, University of Thessaly, Larisa, Greece, ²RN, MSc, Vostaneio General Hospital, Mytilene, Greece, ³Colonel RN, Military Nursing Academy, Athens, Greece, ⁴RN, MSc, University of Thessaly, Larisa, Greece

09.00-10.30

MILITARY MEDICAL INTERFERENCE WITH MAJOR INCIDENTS RELATED TO NATURAL DISASTERS/ TERRORIST ATTACKS - RT3

*Chairpersons: **G. Konstantellos (GRC), A. Badekas (GRC), G. Patoulis (GRC)***

Evolution and future of the casualty rate and wounded in action estimation

G. Vourvoulakis (GRC)

The experience from the cooperation between Health Authorities and Military Medical Corp related to Epidemics, Pandemics and Natural Disasters: From Best Practices in Combating Infodemics & Disinformation to Sustainable Health Communication Partnerships

M.E. Psomiadi (GRC)

Medical aspects of Civ-Mil cooperation during GRC participation to UN/NATO/EU missions

M.C. Giannakopoulou (GRC)

Floating MEDEVAC-Means and procedures

A. Zagorianou (GRC)

Shipwrecked's Search and Rescue in Aegean Sea

I. Alevizakis (GRC)

Comments/Discussion

10.30-11.00

LECTURE

*Chairpersons: **K. Liaskonis (GRC)***

The NIGHTINGALE Project - ESTES

R. Faccincani (ITA)

11.00-11.30

COFFEE BREAK

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WEDNESDAY 17 APRIL 2024

BATTLE TRAUMA MANAGEMENT

11.30-12.30 **AEROMEDICAL EVACUATION - RT4**

Chairpersons: **P. Katsivelas** (GRC), **N. Papaefstathiou** (GRC),
A. Exadaktilos (GRC)

Aeromedical Evacuation- military Nurse Training - flight doctors and nurses

A. Sigala (GRC)

Experience and Special cases of Aeromedical evacuation

A. Saropoulou (GRC)

National Centre of Emergency Care (EKAB)
and Aeromedical Evacuations

D. Pyrros (GRC)

French Military Blood Transfusion Support: Present and Future

J.J. Lataillade (FRA)

Discussion

12.30-13.30 **HYPERBARIC & DIVING MEDICINE: APPLICATIONS OF HYPERBARIC OXYGEN THERAPY, INNOVATION AND RESEARCH AT MILITARY HYPERBARIC CENTERS - RT5**

Chairpersons: **S. Moraitis** (GRC), **I. Sfiniadakis** (GRC)

Department of Hyperbaric & Diving Medicine of the Athens Naval Hospital (DHDM/ANH): Organization, Activities and Expert Roles

V. Kalentzos (GRC)

Practice of Hyperbaric Medicine - relation to wound healing

K. Athanasiou (GRC)

Usefulness of Hyperbaric Oxygen Therapy in Traumatic Conditions

N. Natsioulas (GRC)

Thoracic Surgery and Hyperbaric Medicine: Management of a Diving-related Complex Medical Condition

G. Sotiropoulos (GRC)

Hyperbaric Medicine Research - Radiation Injury in Breast Cancer

V. Kalentzos (GRC)

Comments/Discussion

13.30-14.30 **LUNCH**



WEDNESDAY 17 APRIL 2024

BATTLE TRAUMA MANAGEMENT

14.30-15.00 **LECTURE**

*Chairpersons: **A. Kafantogias** (GRC), **I. Kapisris** (GRC),
G. Gkouvas (GRC)*

Military Hospital CBRN Preparedness and Response
I. Galatas (GRC)

15.00-15.30 **SATELLITE LECTURE**

*Chairpersons: **J. Gardner** (UK)*

Increasing survivability on the battlefield
T. Berrow (UK)

15.30-16.30 **BATTLE TRAUMA I - RT6**

*Chairpersons: **A. Tsakiris** (GRC), **D. Laoulakos** (GRC),
Th. Gretzelos (GRC)*

Advancements in reconstructive Surgery techniques
K. Benetatos (GRC)

The role of Plastic Surgery in improving the quality of life for military
personnel Post-injury
N. Moustakis (GRC)

Combat Related spinal cord injuries: neurogenic vs spinal shock
management/predicted outcomes
A. Kotroni (GRC)

High SCI level - Autonomic dysreflexia syndrome
P. Manthos (GRC)

Networking semantics and pragmatics for better management
of people with SCI
E. MOUNTZI (GRC)

Battle related peripheral nerve injuries epidemiology
and rehabilitation
Z. Symeonidou (GRC)

16.30-17.00 **COFFEE BREAK**

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BATTLE TRAUMA MANAGEMENT

17.00-18.30 **BATTLE TRAUMA II - RT7**

HUMANITARIAN MEDICINE IN ACTION: THE ROLE OF THE ARMED FORCES IN NON-COMBAT SETTINGS

Chairpersons: E. Pikoulis (GRC), E. Karamagioli (GRC)

Basic principles of management in the field

P. Kouridakis (GRC)

The experience of natural disasters

N. Degermetzoglou (GRC)

The experience of mass casualties

C. Chasapi (GRC)

Approaching the TCCC

(Special Forces Command) (Real time link)

Commentator: N. Pararas (GRC)

18.30-19.00 **LECTURE**

Chairpersons: G. Katsimagklis (GRC), A. Anastasakis (GRC)

Sudden Death Syndrome in Military Personnel

G. Kourgiannidis (GRC)

21.00 **PRESIDENT'S DINNER**



WEDNESDAY 17 APRIL 2024

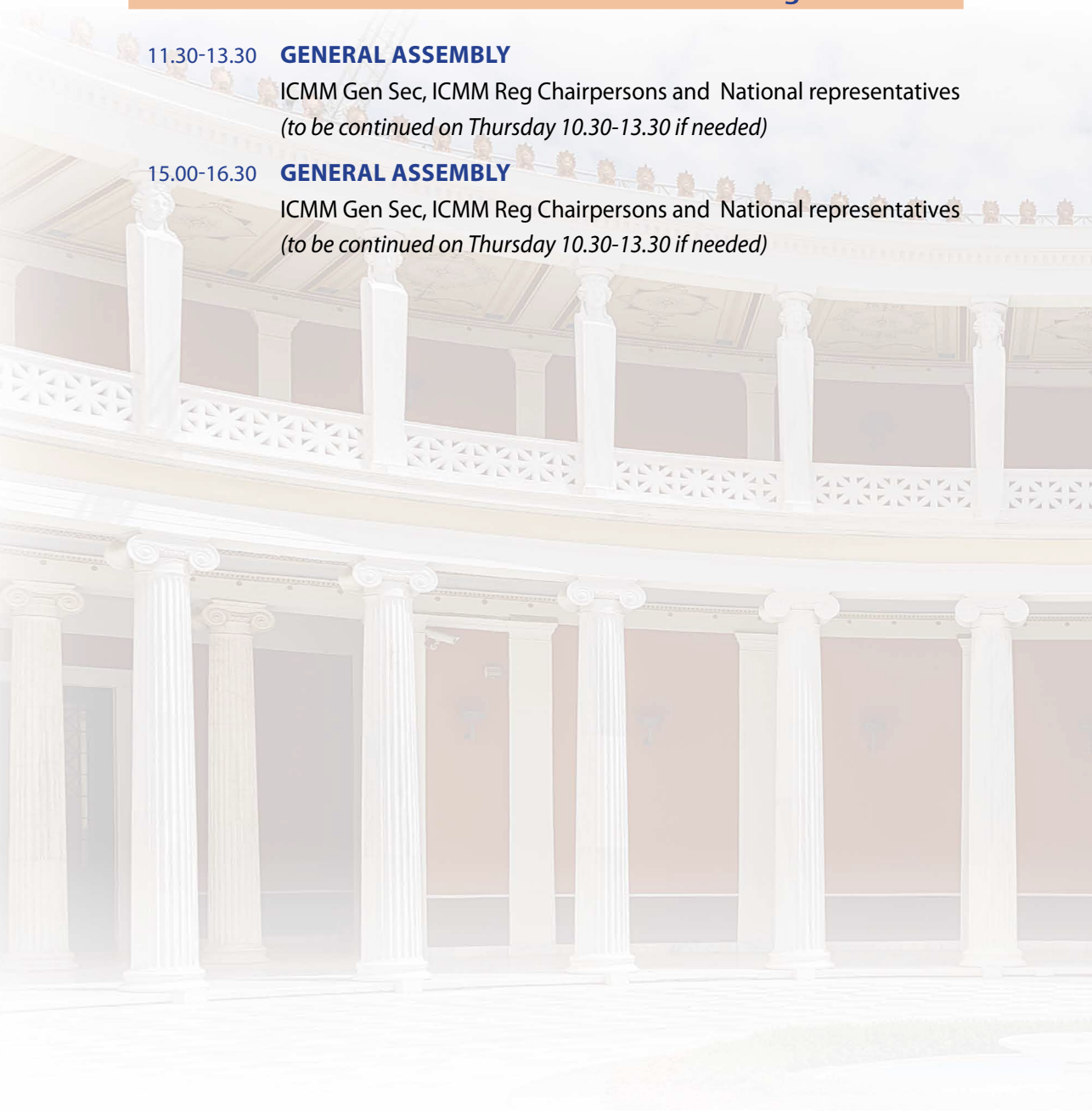
Congress Hall B

11.30-13.30 **GENERAL ASSEMBLY**

ICMM Gen Sec, ICMM Reg Chairpersons and National representatives
(to be continued on Thursday 10.30-13.30 if needed)

15.00-16.30 **GENERAL ASSEMBLY**

ICMM Gen Sec, ICMM Reg Chairpersons and National representatives
(to be continued on Thursday 10.30-13.30 if needed)



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THURSDAY 18 APRIL 2024

PREVENTIVE MEDICINE

08:00-09:00 **ORAL PRESENTATIONS II (07-12)**

Chairpersons: G. Gkialas (GRC), K. Peleki (GRC)

07 COMPARISON AND EVALUATION OF DENTAL HEALTH STATUS AMONG HELLENIC AIR FORCE PERSONNEL

Lt. Colonel Zacharopoulos Georgios¹, DDS, MSc Healthcare Management, Lt. Colonel Alevetsovitis Georgios², MD, Cardiologist, Flight Surgeon

¹Supervisor of Dental Department, Medical Service of 120 Air Training Wing, ²Supervisor of Medical Service of 120 Air Training Wing, Kalamata Airport, Greece

08 A TAILORED APPROACH TO REDUCE DOSE OF ANTI-TNFA DRUGS MAY BE EQUALLY EFFECTIVE THAN STANDARD DOSING IN PATIENTS WITH ANKYLOSING SPONDYLITIS OVER 1 YEAR

CAPT Katsifis Gkikas MD, PhD, RhMSUS, HN¹, Kottas Konstantinos MD¹, Faltaka Amalia MD¹

¹Rheumatology Clinic, Naval Hospital of Athens, Greece

09 THE IMPACT OF BEHAVIOURAL ECONOMICS IN THE HEALTH SECTOR - APPLICATIONS AND METHODS ON MEDICAL STAFF

Azas Paschalis¹, Georgiou Andreas², Iliakopoulos Constantinos³, Aletras Vassilis⁴

¹Department of Business Administration, University of Macedonia, Thessaloniki, Greece, ²Department of Business Administration, University of Macedonia, Thessaloniki, Greece, ³Aretaieio University Hospital, School of Medicine, National and Kapodistrian University of Athens, Greece, ⁴Department of Business Administration, University of Macedonia, Thessaloniki, Greece

10 LEADERSHIP DEVELOPMENT IN MILITARY HEALTHCARE ORGANIZATIONS

Maritsa Evangelia

¹Head of General Secretariat Division, Athens Naval Hospital, Athens, Greece, ²Main Teaching Staff, National Centre for Public Administration and Local Government, Athens, Greece, ³Instructor, Defense and Security Staff, Ministry of Citizen Protection, Athens, Greece

THURSDAY 18 APRIL 2024

PREVENTIVE MEDICINE

11 STUDY OF CISPLATIN'S EFFECT ON THE RETINA AND THE PROTECTIVE ROLE OF SELENIUM

Konstantinidis I.^{1,2,3}, Nitsa M.^{2,3}, Tsokkou S.^{2,3}, Triantafyllou V.^{2,3}, Papadopoulou K.^{2,3}, Kavvadas D.^{2,3}, Pavlidis P.^{4,5}, Tseriotis V.S.⁴, Sardeli Ch.⁴, Kouvelas D.⁴, Sioga A.^{2,3}, Papamitsou Th.^{2,3}, Karachrysafi S.^{2,3}

¹2nd Lieutenant (MED) of the Hellenic Air Force, 251 Air Force General Hospital, ²Research Team "Histologists", Interinstitutional Postgraduate Program "Health and Environmental Factors", Department of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, ³Laboratory of Histology-Embryology, Department of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, ⁴Laboratory of Clinical Pharmacology, Department of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, ⁵ENT Clinic "G. Papanikolaou" General Hospital, Thessaloniki

12 LIFE-SAVING TEVAR IN TRAUMATIC AORTIC ISTHMUS RUPTURE: A CASE STUDY

Fanariotis G., Mpekas N., Chatzis D., Peroulis M.

Vascular Unit, Surgery Clinic, Faculty of Medicine, University of Ioannina

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THURSDAY 18 APRIL 2024

PREVENTIVE MEDICINE

09.00-10.30 **INFECTIOUS DISEASES AND VACCINATION POLICY - RT8**

Chairpersons: D. Hatzigeorgiou (GRC), N. Symeonidis (GRC)

Human Vaccines: A Strategy to Combat AMR

D. Hatzigeorgiou (GRC)

New infectious threats

I. Gialmanidis (GRC)

STANAG 2557. Prevention of transferring of biological hazards during military movement

Ch. Vamvakidis (GRC)

The importance of medical intelligence in international deployable missions

E. Georgiadou (GRC)

Statistical Analysis of COVID cases within Hellenic Armed Forces

K. Ferentinos (GRC)

COVID-19 Crisis Management, Psychological Support for Health Personnel

P. Fotiadis (GRC)

Aeromedical evacuation, High level contained transfer, Lessons from covid 19 pandemic

A. Panagiotopoulos (GRC)

Long COVID effects in military personnel – need for interdisciplinary management and telerehabilitation

A. Kontaxakis (GRC)

Comments/Discussion

THURSDAY 18 APRIL 2024

PREVENTIVE MEDICINE

10.30-11.30 INFECTIOUS DISEASES - RT9

Chairpersons: P. Stamataki (GRC), K. Tsionos (GRC)

The influence of chronic inflammation and elevated biomarkers of hemostasis on coronary and carotid artery disease severity

P. Djuric (SRB)

Mass casualty management in a chemical biological radiological nuclear attack

S. Nikolidaki (GRC)

Altered mental status in influenza – positive adult

N.-G. Papageorgiou (GRC)

Long COVID in the Belgian Defence; prevalence, risk factors and impact on daily functioning

H. Mazibas (BEL)

Infectious diseases surveillance in Military personnel during Thessaly floods in Greece

E. Karantoni (GRC)

11.30-12.00 COFFEE BREAK

12.00-13.30 NURSING SERVICES' MANAGEMENT - RT10

*Chairpersons: A. Kalokairinou-Anagnostopoulou (GRC),
D. Papageorgiou (GRC), V. Roka (GRC)*

Performance evaluation systems and employees motivation interconnection in Health Care

Z. Pafyla (GRC)

Lessons learned on implementing a gender perspective into the Military Health Services

C. Bakopoulos (GRC)

Gender Equality in Hellenic Navy

K. Gaitanou (GRC), A. Revenioti (GRC)

Greek Military Nursing Services

M.Ch. Dimitrakoulakou (GRC)

UK Military Nursing Services

D. Lamb (UK)

Comments/Discussion

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THURSDAY 18 APRIL 2024

PREVENTIVE MEDICINE

13.30-14.30 **LUNCH**

14.30-16.00 **VETERINARY MEDICINE - RT11**

Chairpersons: Ch. Vamvakidis (GRC), P. Fortomaris (GRC),

Military Veterinary capabilities

D. Stavrou (GRC)

Food safety during Operations

P. Danias (GRC)

Civil Food and Water standards in Military Environment

N. Tzimotoudis (GRC)

Veterinary contribution in preventing outbreaks of infectious diseases during natural disasters

D. Lali (GRC)

Military Working Dogs. Challenges and Perspectives

S. Tsantouklis (GRC)

K9 TCCC

G.K. Kagianni (GRC)

Medical detection Dogs

M. Stevens (BEL)

Detection of prostate cancer in men through urine sniffing by a trained dog

K. Terpsidis (GRC)

Comments/Discussion

16.00-16.30 **COFFEE BREAK**

THURSDAY 18 APRIL 2024

MENTAL HEALTH AND PERSONNEL SCREENING

16.30-18.00 MENTAL HEALTHCARE AND OPERATIONAL STRESS ISSUES - RT12

Chairpersons: **D. Mitsikostas (GRC), P. Fotiadis (GRC),
E. Tzavelas (GRC)**

Integrated intervention in Psychosis

K. Rantis (GRC)

Increasing the therapeutic effect: Special drug administration,
Alternative interventions with animals, telepsychiatry

P. Fotiadis (GRC)

Drugs and War-a special relationship

P. Panagiotidis (GRC)

Psychoeducation of Military Staff on Mental Health Issues-
Overcoming Stigma

E. Tsalkitzi (GRC)

Climate change and mental health in the Hellenic Armed Forces

N. Moschopoulos (GRC)

War Psychology-Malingering and self-inflicted wounds

E. Tsalkitzi (GRC)

Psychological warfare-fake news

K. Rantis (GRC)

Psychopathology in the Military Context: A Systematic literature
Review

C. Papadopoulou (GRC)

Comments/Discussion

18.00-18.30 MENTAL HEALTHCARE AND OPERATIONAL STRESS ISSUES - RT12

Chairpersons: **S. Nika (GRC), F. Athanasiadou (GRC)**

2023 EU report on dependencies

I. Bafi (GRC)

21.00 GALA DINNER

All Participants

6th ICMM PAN EUROPEAN REGIONAL CONGRESS ON MILITARY MEDICINE 16–19 April 2024 Zappeion Megaron | Athens Greece

FRIDAY 19 APRIL 2024

08:00-09:00 **ORAL PRESENTATIONS III (13-18)**

Chairpersons: **K. Gkouzis** (GRC)

- 13 COMBAT HEAD AND NECK TRAUMA; A CONTEMPORARY APPROACH**
6th year Commanding Cadet (MD) Liatsos Alexandros¹, 5th year Cadet (MD) Valsamidis Nikolaos¹, 4th year Cadet (MD) Lefantzis Dimitrios-Elias¹, MAJ (MD) Triantafyllidis Agathaggelos², COL (MD) Toullos Petros²
¹Hellenic Military Academy of Combat Support Officers, Thessaloniki, Hellas, ²Neurosurgical Department, 424 General Military Hospital, Thessaloniki, Hellas
- 14 DE NOVO ATRIAL FIBRILLATION IN COMBAT SURVIVORS WITH INTRACRANIAL HEMORRHAGE: A CHALLENGING APPROACH THAT DICHOTOMIZES THE MEDICAL WORLD**
Soufras Vasileios-Panagiotis¹, Giannokostas Petros, Antonopoulos Georgios², Tsiptsios Dimitrios³, Kazis Dimitrios
¹4th Year Cadets (Med), Students, Hellenic Military Academy of Combat Support Officers, Thessaloniki, Hellas, ²Assistant Professor, ³rd Neurological Clinic of "George Papanikolaou" General Hospital of Thessaloniki, Thessaloniki, Hellas, ³Associate Professor, Head of 3rd Neurological Clinic of "George Papanikolaou" General Hospital of Thessaloniki, Thessaloniki, Hellas
- 15 MANAGEMENT OF PENETRANT EYE INJURIES**
Lieutenant colonel **Nenad Petrovic**, Colonel Miroslav Vukosavljevic
Military Medical Academy, Belgrade, Serbia
- 16 A NOVEL DIGITAL TRIAGE SYSTEM FOR MASS CASUALTY INCIDENTS**
Athnasiadis C. Spyridon¹, Ouzounglou Eleftherios¹, Dionysiou Dimitra¹, Vosinakis Giorgos¹, Argyri Katerina¹, Mitro Nikos¹, Stavrou Kostas¹, Chatzimichelakis Stefanos¹, Gkatzogias Apostolis¹, Karagiannidis Lazaros¹, Amditis Angelos¹
¹Institute of Communication and Computer (ICCS), Greece
- 17 COMPARISON OF THE USAGE OF THE THREE MOST EFFECTIVE BATTLE FIELD TOURNIQUETS DURING BATTLE SIMULATION TRAINING**
Dimos Konstantinos^{1,4}, Stavraki Marianna², Pakos Emilios¹, Kitsakos Athanasios³, Tzellios Ioannis¹, Korompilias Anastasios¹
¹Department of Orthopaedics, University of Ioannina, Ioannina, ²Filippiada Health Center, Filippiada, ³Emergency Department, University Hospital of Ioannina, Ioannina, ⁴8th Motorized Infantry Brigade, Kalpaki – Konitsa Battalion of National Guard, Ioannina

FRIDAY 19 APRIL 2024

18 REBOA DURING MEDEVAC. A TOOL FOR CRITICAL CARE AIR TRANSPORT (CCAT) TEAM. THINGS TO CONSIDER, CHALLENGES TO TAKE

LTC Degermetzoglou Nikolaos, MD, MSc, PhD(c)^{1,2}, MAJ Theocharopoulos Georgios, MD¹, COL Bountouris Ioannis, MD, PhD¹

¹Vascular Surgery Clinic, 251 Hellenic Air Force General Hospital, Athens, Greece, ²Emergency and MEDEVAC Department, 251 Hellenic Air Force General Hospital, Athens, Greece

09.00-10.00

PHARMACIST OPERATIONS IN MILITARY HEALTHCARE - RT13

*Chairpersons: **D. Rekkas (GRC), K. Tsarpalis (GRC),
D. Papadogoulas (GRC)***

*Best Practices for maintaining cold-chain integrity
(Project "Eleftheria")*

O. Zina (GRC)

Chemotherapy software: A toolkit for patients' safety

K. Koutsopoulos (GRC)

Clinical Toxicology in Military Pharmacy

V. Arapi (GRC)

Medications and flight safety

N. Chatzigeorgiou (GRC)

Comments/Discussion

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FRIDAY 19 APRIL 2024

OPERATIONAL MEDICINE

10.00-11.00 OPERATIONAL MEDICINE

Chairpersons: A. Saropoulou (GRC), V. Moutevelis (GRC)

Disaster Medicine: Guidelines available for all medical specialties involved

K. Angelopoulos (GRC)

The transition of the Imaging Department to the area of operations: from Radiography to Computed Tomography

I. Koutsikos (GRC)

MARCH versus ABCDE

E. Tzialouki (GRC)

Advanced Custom Face and Jaw Reconstruction: Our experience in Hellenic Army

I. Chatzistefanou (GRC)

Aviation Medicine

- MedHFACS
G. Alevetsovitis (GRC)
- Crew Resource management: From bedside to cockpit
V. Moutevelis (GRC)

11.00-12.00 COFFEE BREAK and WALKING LUNCH

12.00-12.30 LECTURE

Chairpersons: V. Aisopou (GRC), A. Chandrinou (GRC)

Telemedicine in Greece and its potentiality in the Armed and Security Forces

F. Kouris (GRC)

12.30-13.30 Hellenic Red Cross experience

Chairpersons: A. Papageorgiou (GRC), A. Avgerinos (HRC)

Ways of Action in Situations of Natural Disasters and Humanitarian Crisis

D. Chaliotis (HRC)

Humanitarian Aid: Challenges, Good Practices

T. Fonazaki (HRC)

Communication in Natural Disasters and Humanitarian Crisis

K. Gavriilidis (HRC)

13.30-14.30 CLOSING CEREMONY

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Captain RN/MsC/Health Informatics/Hellenic National Defence General Staff/Medical Directorate/ Health Informatics and Statistics dpt/Head

ALEVETSOVITIS GEORGIOS

Lt Colonel Georgios Alevetsovitis, MD, FS, Cardiologist MSc

ALEVIZAKIS IOANNIS

Lieutenant Junior Grade HCG MD, Attending Surgeon, 2nd Department of General Surgery, Athens Naval Hospital

ANASTASAKIS ARIS

Consultant Cardiologist, Scientific Director, Unit of Inherited and Rare Cardiovascular Diseases, Onassis Cardiac Surgery Center, Coordinator of the Project "National Network of Precision Medicine in Cardiology"

ANGELOPOULOS KONSTANTINOS

Second Lieutenant Medical Corps

ARAPI VASILIKI

Lieutenant Pharmacist, MSc in Clinical Toxicology

ATHANASIADOU FOTEINI

Lieutenant Colonel, Dr. (RN), Family therapist, Interdisciplinary Center for Mental health of the Armed forces

ATHANASIOU KONSTANTINOS

Hyperbaric & Diving Nursing, MSc in Treatment and Care of Wounds and Ulcers

AVGERINOS ANTONIOS

President of the Hellenic Red Cross (HRC)

BADEKAS ATHANASIOS

M.D. ORTHOPAEDIC SURGEON TRAUMATOLOGIST President 2022 Hellenic Association of Orthopedic Surgery and Traumatology Director of the 3rd Orthopedic Clinic Henry Dunant Hospital, Athens Greece Lieutenant General of the Hellenic Police Health Division

BAFI IOULIA

Head of the Greek Documentation and Monitoring Centre for Drugs & Alcohol- Greek REITOX Focal Point of the EMCDDA (UMHRI - University Mental Health, Neurosciences & Precision Medicine Research Institute COSTAS STEFANIS)

BAKOPOULOS CHARALAMPOS

Colonel, Equality-Prevention and Response to Sexual Violence Section, Human Resources Directorate, Hellenic National Defense General Staff

BENETATOS KONSTANTINOS

Lieutenant Colonel, Consultant of plastic and reconstructive surgeon

BERROW TIM

Global Product & Business Development Manager (Trauma)

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HRC Volunteer Rescuer and Lifeguard - Instructor

CHANDRINOY ANGELIKI

Captain RN/MSc, PhD/Health Informatics/Athens Naval Hospital/Administration Directorate/Information Technology dept/ Head

CHASAPI CHRYSANTHI

MD, CARDIOLOGIST General Hospital of Nafplio MSc in prehospital medicine MSc in Public Health ESDY Athens Greece MSc in Global Health-Disaster Medicine, Medical School, NKUA Teaching fellow in MSc Global Health-Disaster Medicine, Medical School, NKUA PHTLS, B-CON, emergency training system

CHATZIGEORGIOU NIKODIMOS

Lieutenant Colonel, Clinical Pharmacist, MSc, MBA, Hellenic Air Force General Staff (HAFGS) Medical Directorate

CHATZISTEFANOY IOANNIS

MD, DDS, PhD, FACS Maxillofacial Surgeon | 424 General Military Hospital of Thessaloniki

DANIAS PANTELIS

Microbiologist, DVM, MSc, Hellenic Army Biological Research Center

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LTC, HAF, MD, MSc, PhD(c) 251 HAF General Hospital Vascular Surgery Clinic Consultant Emergency and MEDEVAC Department Director

DEMUYNCK BART

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DIMITRAKOULAKOU MARIA-CHRISTINA

Captain HN, RN, MSc in Nursing Research Medical Affairs Department, Hellenic Navy General Staff

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Lieutenant Colonel, HNDGS/Mecical Directorate

FERENTINOS KONSTANTINOS

Senior Consultant in Data & Analytics | Consulting Services | EY Greece

FONAZAKI THALEIA

Programme Manager "Migration, Multifunctional Centre, ACCREF", Hellenic Red Cross

FORTOMARIS PASCHALIS

Professor, DVM, PhD, Diplom. ECPHM Dean (Head) of the School of Veterinary Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki

FOTIADIS PETROS

Colonel, M.D., Director of Military Center of Mental Health, 424 GSNE, Thessaloniki, Greece/ President of Military Psychiatry, Hellenic Psychiatric Association

GAITANOOU KONSTANTINA

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GALATAS IOANNIS

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GARDNER JOHN

International Sales Manager

GAVRIILIDIS KONSTANTINOS

HRC Communication Manager

GEORGIADOU EVANTHIA

Student, Hellenic Military Nursing Academy

GIALMANIDIS IOANNIS

Respiratory physician, First Lieutenant Hellenic Coast Guard, Naval Hospital of Athens

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Capt., BSN, RN, MSc

GKIALAS GERASIMOS

Orthopaedic Surgeon, Colonel MD, Director of Health Core Training Military School, Greek Army

GKOUVAS GEORGIOS

Major General MD, PhD, Orthopaedic and Trauma Surgeon, Commander Hellenic Military Academy of Combat Support Officers

GKOUZIS KONSTANTINOS

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KAFANTOGIAS ALKIVIADIS

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Veterinarian

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Head - Department of Hyperbaric & Diving Medicine / Athens Naval Hospital (DHDM/ANH)

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Professor in Community Nursing President of the Undergraduate Studies Committee Director of Laboratory Community Nursing Faculty of Nursing, National and Kapodistrian University of Athens

KAPIRIS IOANNIS

MD, MSc, PhD, HNDC, Director 1st Surgical Clinic, 251 Hellenic General Airforce Hospital

KARAMAGKIOLI EVIKA

MSc, PhD, Juriste, Scientific Collaborator, MSc Global Health -Disaster Medicine, Faculty of Medicine, National and Kapodistrian University of Athens (NKUA), Lecturer, MSc in Digital Communication Media and Interaction Environments, Dept. of Communication and Media Studies, National and Kapodistrian University of Athens (NKUA)

KARANTONI ELENI

Lieutenant Colonel, MD Attending physician in Internal Medicine and Infectious Disease Medical Directorate, Hellenic Airforce General Staff (HAFGS)

KASSIMOS DIMITRIOS

Major General, Rheumatologist, MD, MSc, PhD. Director, Medical Directorate, Hellenic Army General Staff

KATSIFIS GKIKAS

Captain MD, PhD, RhMSUS, HN, Rheumatologist, Director and Chief, Rheumatology Clinic, Naval Hospital of Athens.

KATSIMAGKLIS GEORGIOS

Interventional Cardiologist, Director 1st Cardiology Department and Cath-Lab Naval and Veterans Hospital of Athens

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Major General, MD, MSc, PhD, Director, Medical Directorate, Hellenic Airforce

KOTRONI AIKATERINI

Physical Rehabilitation Medicine M.D., MSc, LFEBPRM Director of PRM Department, KAT Hospital, Athens

KOUKIOTOU EIRINI

Commander HN, RN, MSc, Head of Academic Department of the HMNA

KOURGIANNIDIS GEORGIOS

Interventional Radiologist, Head Clinical Electrophysiology and Cardiac Rhythm Management Laboratory, Cardiology Clinic 251 Hellenic Air Force Hospital

KOURIDAKIS PETROS M.

MD, PhD, FACS, Director of 2nd Surgical Clinic of 424 GMH, Thessaloniki

KOURIS FOTIOS

Business Developer Manager Smart Solutions Services Business Division, Intracom Telecom

KOUTSIKOS IOANNIS

MD, PhD, Nuclear Medicine Physician, Chief of Nuclear Medicine Department, 401 General Military Hospital of Athens, Henry Dunant Hospital Center

KOUTSOPOULOS KONSTANTINOS

Attending Pharmacist, Centralized Cytotoxics and Biologics Preparation Unit, Department of Pharmacy, 251 Hellenic Air Force General Hospital

LALI DIMITRA

Lieutenant, DVM

LAMB DIANE

Defence Professor of Nursing (United Kingdom)

LAOULAKOS DIMITRIOS

Captain, Head plastic surgery Clinic Athens Naval Hospital

LATAILLADE JEAN-JACQUES

Major General (MG) ICMM Deputy Chairman Scientific council

LIASKONIS KONSTANTINOS

Major General MD, Director 401 Military Army General Hospital

MAKRAS POLYZOIS

Colonel, Head of Department of Medical Research, 251 Hellenic Air Force & VA General Hospital

MANTHOS PROKOPIOS

MD MSc SFEBPRM Physical Medicine and Rehabilitation Physician, General Hospital of Athens "G. Gennimatas"

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Commodore HN, Cardiothoracic Surgeon, Director/Commanding Officer of Naval and Veterans Hospital of Athens MD, MSc, PhD, MBA, FACS, FEBTS

MOSCHOPOULOS NIKOLAOS

Major, M.D., Psychiatrist, Military Center of Mental Health, 424 GSNE, Thessaloniki, Greece

MOUMTZI ELENI

PRM MD, MSc in Geriatrics, Head of 414 MHoSD PRM Dpt

MOUSTAKIS NIKOLAOS

LCDR, MD MSc, MRCS (Eng) Consultant Plastic Aesthetic & Reconstructive Surgeon

MOUVELIS VASILEIOS

Maj (MD), FS, MSc, PhD (c), Internist, Medical Directorate HAF HQ

NATSIOLAS NIKOLAOS

FEBOT, FRCS, Trauma and Orthopaedic Consultant, Naval Hospital of Athens

NIKA STELLA

Colonel, HAF Psychiatrist, Systemic Psychotherapist MSc in health policy & planning, MSc in health & law Hellenic National Defence General Staff/Medical Directorate/Mental Health Department

NIKOLIDAKI SPYRIDOULA

Nurse Msc, Head of Emergency Department at the Naval Hospital of Crete, Chania

PAFYLA ZOI

Commander HN, RN Staff of Nursing Support/Medical Affairs Department Hellenic Navy General Staff MSc in Health Management & MSc in Human Resources Management

PANAGIOTIDIS PANAGIOTIS

Colonel, M.D., Ph.D, Psychiatrist, Psychiatric Department, 424 GSNE, Thessaloniki, Greece

PANAGIOTOPOULOS ANDREAS

Lt Commander, Medical Corps, Vascular Surgeon Athens Naval and Veterans Hospital

PAPADOGOULAS DIMITRIOS

Captain, Director of the Pharmaceutical Department, Naval Hospital of Athens

PAPADOPOULOU CHRYSANTHI

Captain Psychologist, Interdisciplinary Mental Health Center of the Armed Forces

PAPAEFSTATHIOU NIKOLAOS

President of National Centre of Emergency Care (E.K.A.B.) and National Health Operations Centre

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Rear Admiral MD, Vascular Surgeon, Surgeon General of Hellenic Armed Forces

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Assistant Professor University of Peloponnese Head Nurse Oncology Unit Euroclinic Athens
President of Hellenic Oncology Nursing Society

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Fourth Department of Internal Medicine, Medical School, National and Kapodistrian University of Athens, ATTIKON University General Hospital, Athens, Greece

PAPAIANNOU STAVROULA

Sergeant 4th year Cadet

PARARAS NIKOLAOS

MD, PhD, FEBS, FACS, General Surgeon, Academic Associate 3rd University Surgical Department, Attikon Hospital, NKUA

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Colonel (HAF) Comander Hellenic Military Nursing Academy

PIKOULIS EMMANOUIL

MD, PhD, DMCC, FACS, FEBS, Dean of School of Health Sciences, Professor & Chairman of the 3rd Department of Surgery, "Attikon" Hospital, School of Medicine, NKUA, Adj. Professor of Surgery, USUHS Bethesda, Maryland, USA, Adj. Professor in Humanitarian and Catastrophe Emergency Medicine, University of Bern, Switzerland, Director of MSc "Global Health – Disaster Medicine" NKUA, European Jean Monnet Chair in Humanitarian Medicine and response in action

PSARROS FOTIOS

Captain MD, Allergist, Director, Allergy Clinic, Naval Hospital of Athens

PSOMIADI MARIA-ELISSAVET

RN, MSc, PhD(c). Executive at the Department of Programming, Planning & Communication for the Response to Public Health Emergencies, Directorate of Operational Preparedness for Public Health Emergencies, Greek Ministry of Health. Ionian Univerity PhD Candidate.

PYRROS DEMETRIOS

MD, EMDM, Coordinating Director, Director of Medical Services, National Centre of Emergency Care (EKAB)

RANTIS KONSTANTINOS

Lieutenant Colonel, M.D., Psychiatrist, Military Center of Mental Health, 424 GSNE, Thessaloniki, Greece

REKKAS DIMITRIOS

Associate Professor of Pharmaceutical Technology National and Kapodistrian University of Athens, Greece

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Captain HN, MSc, ICU Head Nurse in Naval Hospital of Athens

ROKA VASILIKI

Captain HN, RN, Medical Affairs Department, Hellenic Navy General Staff Adjunct Academic Staff, Hellenic Open University, Greece

ROKKA ELENI

Lt.Colonel(RN), Msc, Deputy Head of Oncology-Haematology Nursing Ward-251 Hellenic Airforce General Hospital

SAROPOULOU AIKATERINI

Colonel (RN)

SFINIADAKIS IOANNIS

Captain (navy), MD, MSc, LLM Director DPT of Surgical Pathology Athens Naval Hospital
Director of Piraeus Naval Hospital President BMCC

SIGALA AIKATERINI

Captain (RN), (FN) 251 HAF General Hospital

SISKA IOANNA

Major (Dent), Msc, PhD(c) Hellenic Air Force

SOTIROPOULOS GEORGIOS

Lieutenant Commander, MD, PhD, Attending Thoracic Surgeon, Athens Naval Hospital

STAMATAKI PETROULA

Captain, Msc, PhD NKUA, Head of Hospital Infection Control Office, Athens Naval Hospital,
NKUA Postgraduate Program Scientific Associate, MSc in Infections' Prevention and Control

STAVROPOULOS DIMITRIOS

Captain HN, DMD, Dipl.Ortho, MSc, Phd, Head of the Department of Orthodontics, Athens
Naval and Veterans Hospital, Greece

STAVROU DIMITRA

Major Doctor of Veterinary Medicine, 401 General Military of Athens, Greece

STEVENS MIGUEL

Lieutenant Colonel (LCL) ICMM assistant to the SG 3

SYMEONIDIS NIKOLAOS

Colonel (HAF) PHD Infectious Diseases-Internal Medicine 251 Military Hospital

SYMEONIDOU ZAIRA

MD, MSc, FEBPRM, Consultant of Physical Medicine and Rehabilitation, Department of
Physical Medicine and Rehabilitation, 414 Military Hospital for Special Diseases

TERPSIDIS KONSTANTINOS

Colonel DVM, Small Animal Internist, PhD, MSc

TRIMMIS VASILEIOS

Lt Col, DVM/BSc/MA, Hellenic Army General Staff/Medical Directorate (HAGS/MEDDIR)

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Chief Plastic, Reconstructive and Aesthetic Surgery, 401 General Military Hospital of Athens

TSALKITZI ELENI

Captain, Registered Psychologist, MSc, Psychologist at Military Center of Mental Health, 424 GSNE, Thessaloniki, Greece

TSANTOUKLAS STEFANOS

Major Airforce VET

TSARPALIS KYRIAKOS

Colonel, Pharmacist

TSIALOUKI EIRINI

Student Hellenic Military Nursing Academy

TSIODRAS SOTIRIOS

MD, PhD, FIDSA, Professor of Medicine and Infectious Diseases, National & Kapodistrian University of Athens Medical School, Chair, 4th Department of Internal Medicine, Attikon University Hospital, Chair, National Committee of Public Health experts, Greece

TSIONOS KONSTANTINOS

Wing chief, Hematologist, Chief of internal medicine wing, 251 Hellenic Airforce General Hospital

TZAVELAS ELIAS

M.D., Ph.D., Associate Professor of Psychiatry, Eginition Hospital, University of Athens, Medical School

TZIMOTODIS NIKOLAOS

Hellenic army biological research center laboratory of microbiology

VAMVAKIDIS CHRISTOS

Colonel DVM/Ma/MSc/PhD/Internal Medicine Specialist, Hellenic National Defence General Staff/Medical Directorate/Medical Support Dpt/ Head

VOURVOULAKIS GEORGIOS

Colonel MD, Internal Medicine Specialist ACOS GMED & MEDAD, NATO Rapid Deployment Corps - Greece

ZAGORIANOU ANASTASIA

Anesthesiologist intensivist, Lieutenant commander Hellenic Coast Guard

ZIDROU MARIA

First class sergeant cadet (6th year, Doctor of Medicine), Hellenic Military Academy of Combat Support Officers

ZINA OLGA

Pharmacist Hellenic Army



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ORAL PRESENTATIONS



ORAL PRESENTATIONS

OP 01

LOW BACK PAIN AND RELATED DISABILITY IN HELICOPTER PILOTS: A SURVEY OF PREVALENCE AND RISK FACTORS

Lt Col Stylianides Georghios MBChB, MHealSc, MOSH, DAvMed, DOccMed, FRAeS

CY National Guard Mil Med Service Directorate, Nicosia, Cyprus

Introduction: Helicopter flying, has long been associated with **Low Back Pain (LBP)**. The study investigated the prevalence of and the associated risk factors for helicopter pilots LBP, the related disability and potential of mitigation strategies.

Methods: A quantitative descriptive research was carried out, involving the administration of a semi-structured, unanimous, voluntary questionnaire, to all active duty Cyprus Air Force helicopter pilots, stationed at Paphos Air Base. The questionnaire, concerned flight-related and individual risk indicators, psychosocial factors, frequency of LBP episodes, pilot perceptions and associated disability. Multivariant regressions, with the potential to control for confounding factors, were used to estimate relative risks (RR). The response rate was **75%**.

Results: The reported **3-month prevalence** of LBP was **69%**, **80%** of pilots blaming 'flying a helicopter' and **66%** pinpointing at 'Vibration' and 'Posture'. The helicopter type reported ranking in terms of association with LBP, was **Mi-35 (47.5%)**, followed by **Bell-206 (35%)**, Gazelle **SA-342 (15%)** and **AW139** (by **2.5%**). A history of recent pain in a closely related anatomical region (**RR=3.65**, 95% CI=1.79-2.53, **p=0.035***) and a previous history of low back pain (**RR=1.50**, 95% CI=1.20-1.87, **p=0.0003***), were significant risk factors for LBP*, while height and BMI, greater than 1.75m and 25.1 respectively, showed a non-statistically significant associated trend towards increased risk. On the other hand, muscle strength training was a significant risk reduction factor (**RR=0.46**, 95% CI=0.24-0.90, **p=0.023**). Among LBP cases, **38%** reported that pain interfered with their flying duties and **41%** 'considerably less' LBP when wearing a **Lumbar Support** in flight.

Conclusions: LBP is a common, universal occupational disorder among helicopter pilots. Its prevalence, appraised aetiology and associated disability in CAF helicopter pilots, were comparable to other corresponding populations. The reported interference with flying duties highlights the potential threat posed to Flight Safety. Identified risk indicators, can be useful tools in risk management.

Key words: Helicopter pilots, Low Back Pain, Vibration, Posture, Lumbar Support

OP 02

DIAGNOSTIC AND THERAPEUTIC CHALLENGES IN A MILITARY RECRUIT TRAINING CENTER OF THE HELLENIC NAVY: A RETROSPECTIVE ANALYSIS OF THE POROS REGISTRY SERVING AS PRACTICAL GUIDANCE FOR MEDICAL OFFICERS

Lieutenant Jr Papazoglou Andreas, MD, MSc; Athanaseas Ioannis, DDS; Fousekis Konstantinos, MD; Kasotakis Nikolaos, MD; Kolokouris Spyridon, MD; Zisakis Thomas, MD; Kyriakoulis Konstantinos, MD

Athens Naval Hospital, Athens, Greece

Introduction: Basic military training (BMT) has been associated with increased morbidity burden. Nevertheless, the exact epidemiology of the encountered cases in the BMT of Greek recruits has never been assessed. The aim of this analysis was to investigate for the first time the clinical patterns, rates and severity of symptoms leading recruits to visit the infirmary of a recruit training center, and use this knowledge to provide a practical guidance for the physicians in charge.

Methods: All medical cases which were consecutively examined for the time-range from November 2021 to September 2022 at the infirmary of the Hellenic Naval recruit training center in Poros, Greece were retrospectively analyzed. Logistic regression analyses were performed to identify independent predictors of “severe clinical status” (i.e., overnight sick bay confinement and/or transfer to a tertiary hospital within 24 hours) and absence from BMT for at least one day.

Results: A total of 2,623 medical cases were examined during four recruit seasons from November 2021 to September 2022. Upper respiratory tract infections (URTIs) and musculoskeletal injuries were the most frequent reasons for a recruit's visit to the infirmary (33.9% and 30.2%, respectively). 6.7% of the total cases were identified as having “severe clinical status”. Specifically, psychiatric, urological, cardiovascular cases, and febrile events were all independently associated with increased risk of “severe clinical status”. There was a positive association between training week and absence from BMT, while febrile events and spring recruit season were also independently linked with increased probability of absence from BMT for at least one day.

Conclusions: URTIs and musculoskeletal complaints were the primary reasons for recruits' presentation at the infirmary of a Greek recruit training center leading to severe rates of attrition. Further registries, trials and recruit audits are warranted to reach specific conclusions and reduce BMT-related morbidity and its subsequent implications.

Keywords: Basic military training; Hellenic Navy; recruit training center; military campus

OP 03

PRINCIPLES OF THE PRE-HOSPITAL WARTRAUMA MANAGEMENT AND TREATMENT INTEGRATED WITH AI AND MACHINE LEARNING UPON 5G INTERNET NETWORKS TO SUPPORT THE GOLDEN HOUR PRINCIPLE AND OPTIMIZE OUTCOMES IN CIVILIAN TRAUMA SURGERY

**Mammas S. Constantinos MD Msc PhD Consultant Surgeon^{1,2},
Mamma S. Adamantia MEng, PhD (BMEng)¹, Saoulides Demetrios MD
(Director Anesthesiologist)²**

¹Program of Excellence 2014-16 of the Hellenic Ministry of Education, Research, Innovation,

²General Hospital of Kalymnos

Aim: Development and evaluation of impact of the 5G internet networks (5GIN) upon Artificial Intelligence (AI)/Machine Learning (ML) in the pre-hospital setting (PS), on remote instant prognosis and triage computation, decision support, treatment planning and on Golden Hour (GH) in Civilian Trauma (CTR).

Material and Methods: (PS) organization and care upon (5GIN) high bandwidths (10 GB/s) mobile tele-communication (mTC) experimented by simulation by seven (n=7) professional rescuers and trauma surgeons to evaluate feasibility, reliability, clinical usability for instant risk, prognosis and triage computation, decision support and treatment planning by (AI)/(ML) computations in (PS) of (CTR) upon four (n1=4) clinical cases each time in the Aretaieion University Hospital of Athens on 19.05.2022, in the City of Volos on 27.07.2022, and in the War Museum of Athens on 24.06.2023 and on 26.06.2023. Real time data sharing between rescuers and (ED)/(TC) established, combining both 5G-radio and-core network parts. Besides technical performance evaluations, a medical assessment of computations and of transmission latency evaluated. Trauma severity scales computations by an experimental wearable Cobot based on AI and ML complex algorithms Cloud Computing (i.e. ISS, GCS, TRISS, ASCOT).

Results: 1. Measured be-directional instant computations between rescuers and (ED/TC) showed high feasibility upon (5GIN) under specific, technological and ergonomic conditions. (5G IN) test revealed an average end-to-end round trip latency of 10 milliseconds (<1ms), 2. This depends on the computing devices quality, their digital connection to (mTC) and the inherent phenomena (LOS, Scattering, Frequency Hopping), 3. Presence of a physician in the rescue team for life saving interventions (i.e iv canulation, intubation, tracheostomy, thoracic intubation, hypothermia prevention, hemorrhage control by hemorrhage dressings and tourniquets, REBOA in ED, etc.), is more essential.

Conclusions: Integration of (AI)/(ML) in (PS) upon (5GIN) is under conditions reliable for real-time computations for decision support and treatment planning to support the (GH) in (CTR).

Key words: Artificial intelligence, Machine Learning Prediction, 5G internet networks, Prehospital Trauma Organization and Care, Golden Hour.

OP 05

DEMOGRAPHIC AGEING AND ICU COST IN MILITARY HOSPITALS: AN EMERGING PROBLEM

Mastrogianni Maria¹, Galanis Petros², Siskou Olga³, Kaitelidou Daphne⁴, Katsoulas Theodoros⁵

¹Major, Department of Health Policy, Ministry of National Defense, Athens, Greece, ²Assistant Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece, ³Assistant Professor, Department of Tourism, University of Piraeus, Athens, Greece, ⁴Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece, ⁵Associate Professor, Department of Nursing, National & Kapodistrian University of Athens, Athens, Greece

Introduction: There is widespread concern about demographic pressures of population ageing, as demographic estimates show a marked stagnation in population growth, which is at the same time accompanied by a decline of younger persons and a large increase in the proportion of older people with a remarkable rise in health care expenditures.

Aim: To investigate the impact of demographic ageing on the determination of variable ICU cost in a military Greek Hospital. Material and method: A retrospective observational study was carried out, using the bottom-up costing methodology. The study sample consisted of 204 hospitalized patients in the 7-bed ICU of 251 Air Force General Hospital, from January 1, 2016 to December 31, 2017. The demographic and clinical characteristics of the patients and all resources (type and amount of laboratory/imaging tests, medication, and consumables) were recorded for the entire sample. Patients were categorized into 3 age groups (18-65 years, 65-80 years and ≥ 80 years, known as "very old ICU patients", VOPS). For each category, mean and median total and daily variable cost of hospitalization was accurately calculated. Results: VOPS covered 26% of total sample, with 63% of them being medical patients and 42% of them men. Apache II score, ICU Length of Stay (LOS) and mortality were higher in very elderly patients (mean APACHE II score: 18-65 yrs:20,2; 65-80 yrs:25,1; ≥ 80 yrs:29,4) (mean LOS: 18-65 yrs:4,4; 65-80 yrs:4,3; ≥ 80 yrs:5,6) (mean mortality rate: 18-65 yrs:17%; 65-80 yrs:34%; ≥ 80 yrs:34%). Also, VOPS needed more mechanical respiratory support (18-65 yrs:71%; 65-80 yrs:73%; ≥ 80 :87%) and renal replacement therapy (18-65 yrs:13%; 65-80 yrs:18%; ≥ 80 :35%). All the above maximized mean and median total variable cost of hospitalized VOPS (18-65 yrs:€ 3816,6; 65-80 yrs:€ 4111,9; ≥ 80 yrs:€ 5248,5) and (18-65 yrs:€ 1479,8; 65-80 yrs:€ 1391,9; ≥ 80 yrs:€ 3534,2) respectively.

Conclusions: VOPS rise ICU variable cost, as they have increased needs of specialized expensive medication, prolonged hospitalization, mechanical ventilation, and renal replacement support.

Key – words: Intensive care, ICU, very elderly patients, demographic ageing



OP 06

INVESTIGATION OF NURSES' PSYCHOSOCIAL RISKS IN THE WORKING ENVIRONMENT IN GREECE

Malliarou Maria¹, Kallia Georgia², Karkanti Iasimi³, Kouroutzis Ioannis⁴

¹Professor of Nursing, lieutenant colonel ret, University of Thessaly, Larisa, Greece, ²RN, MSc, Vostaneio General Hospital, Mytilene, Greece, ³Colonel RN, Military Nursing Academy, Athens, Greece, ⁴RN, MSc, University of Thessaly, Larisa, Greece

Background: Nursing staff are daily exposed to various risks, such as physical, chemical, ergonomic and psychosocial ones, which lead to various consequences. Psychosocial risks represent one of the greatest challenges of healthcare employees' health and security, worldwide

Purpose: This research, involves investigation about the psychosocial risks that nurses have to deal with, in public hospital in Greece.

Materials and Methods: A study was carried out among the nurses of a General Hospital in the period December 2022-March 2023. 152 questionnaires were completed. The Copenhagen Psychosocial Questionnaire COPSQ III was used to investigate the psychosocial risks faced by nurses. The statistical analysis of the research data was done using the SPSS 26 statistical package.

Results: The statistical analysis showed that workload, emotional pressure, conflicting demands, night shifts not only have a negative effect on the unhealthy behavior of employees but also leads to increased levels of anxiety and job insecurity. According to the research, the percentages of reduced ability to fulfil tasks are higher and moreover the impact on nurses' private life is also detrimental. To sum up, regarding the interpersonal relationships in the workplace, the majority of the sample identified satisfactory levels of communication and cooperation, as well as freedom to take initiatives, while at the same time, recognition from the management side of the services provided by the nurses, was mentioned.

Conclusions: A correlation of psychosocial risks with the quality of life of nurses is evident. Both job satisfaction and health behavior followed by nurses are directly and indirectly influenced by the leadership and administrative organization of the health unit. Actions and incentives for reward and continuing education will contribute to the satisfaction of nurses, staying in their jobs and providing quality health care.

Keywords: psychosocial, risks, nurses

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OP 07

COMPARISON AND EVALUATION OF DENTAL HEALTH STATUS AMONG HELLENIC AIR FORCE PERSONNEL

**Lt. Colonel Zacharopoulos Georgios¹, DDS, MSc Healthcare Management,
Lt. Colonel Alevetsovitis Georgios², MD, Cardiologist, Flight Surgeon**

¹Supervisor of Dental Department, Medical Service of 120 Air Training Wing, ²Supervisor of Medical Service of 120 Air Training Wing, Kalamata Airport, Greece

Aim: the aim of this cross-sectional study is to evaluate and compare the dental health status among the three main categories of the Hellenic Air Force permanent personnel such as Pilots graduates from the Air Force Academy, Non-Commissioned Officers Engineers graduates from the Air Force Non-Commissioned Officer's (NCO's) Academy and Non-Commissioned Officers Engineers by direct recruitment into the Hellenic Air Force, serving in the 120 Air Training Wing in Kalamata Airport.

Material-Method: 400 men and women of flying and mechanic permanent personnel were randomly selected and examined in the dental department of the 120 Air Training Wing in Kalamata Airport, from January of 2017 until September of 2018. The recorded parameters included socio-demographic factors, attending years in Hellenic Air Force Academies, the Decayed, Missing and Filled Teeth Index (DMFT), oral hygiene and dental visit frequencies and smoking habits.

Discussion: the permanent personnel of Hellenic Air Force include three main categories depending on the total attending years in Air Force Academies, i.e. 4 years studying in the Air Force Academy, 2 years in Non-Commissioned Officer's (NCO's) Academy and a category of direct recruitment into the Air Force as NCO's.

Conclusion: the study focuses on the different dental health status of the permanent personnel in the Hellenic Air Force related to their recruitment way and mission. The mission risk and duty readiness of each category seems to play an important role on the dental health status and individual interest for oral hygiene. Military dentists have to encourage personnel to improve their dental health status, to fulfill their dental needs in order to prevent more complicated dental issues and increase their operational readiness. Moreover, it is necessary to treat all dental problems for all cadets during an annual examination and before their graduation from Air Force Academies.

Key words: dental status, Hellenic Air Force, personnel.



OP 08

A TAILORED APPROACH TO REDUCE DOSE OF ANTI-TNFA DRUGS MAY BE EQUALLY EFFECTIVE THAN STANDARD DOSING IN PATIENTS WITH ANKYLOSING SPONDYLITIS OVER 1 YEAR

CAPT Katsifis Gkikas MD, PhD, RhMSUS, HN¹, Kottas Konstantinos MD¹, Faltaka Amalia MD¹

¹Rheumatology Clinic, Naval Hospital of Athens, Greece

Background: In ankylosing spondylitis (AS) patients, anti-tumor necrosis factor- α (anti-TNF α) therapy has been shown to reduce disease activity and improve physical function. Treatment may be required for long time since attempts to withdraw therapy completely usually lead to relapse. However, clinical experience suggest that reduced doses may be equally effective as standard doses, after achieving good control of disease activity.

Objective: To compare the effectiveness and safety of standard versus reduced doses of anti-TNF drugs in AS patients after achieving low-disease activity.

Methods: This was a single-centre, prospective, observational study performed in the Rheumatology Clinic, Naval Hospital of Athens. The dose tapering strategy was chosen by treating physicians, without prespecified protocol. We used propensity score (PS) methodology to identify two cohorts of patients matched for relevant baseline characteristics who were treated with either reduced (n=30) or standard (n=32) doses of TNF inhibitors. One year outcomes were compared between both cohorts.

Results: In the reduced dosing group, the median dose of TNF inhibitor corresponded to 0.7 and 0.6 of the standard dose initially and at 12 months respectively. The mean change per year in Bath AS Activity Index, C-reactive protein and Bath AS functional index was no different between both groups. The percentage of patients in the reduced versus standard dosing group for relapse and any adverse event was 11.2 % vs 8.8% and 15% vs 18% respectively.

Conclusions: In patients with AS after reaching low disease activity, a tailored approach to reduce doses of anti-TNF drugs produced similar clinical outcomes at 1 year.

Key words: Ankylosing Spondylitis – anti-TNF α – Dose reduction

OP 09

THE IMPACT OF BEHAVIOURAL ECONOMICS IN THE HEALTH SECTOR - APPLICATIONS AND METHODS ON MEDICAL STAFF

Azas Paschalis¹, Georgiou Andreas², Iliakopoulos Constantinos³, Aletras Vassilis⁴

¹Department of Business Administration, University of Macedonia, Thessaloniki, Greece,

²Department of Business Administration, University of Macedonia, Thessaloniki, Greece,

³Aretaieio University Hospital, School of Medicine, National and Kapodistrian University of Athens, Greece, ⁴Department of Business Administration, University of Macedonia, Thessaloniki, Greece

Objectives: Evidence Based Medicine creates a tremendous overload of information for health professionals. We explore nudging using partition dependence as an alleviation to EBM implementation problems. We examine its effect by grouping therapeutic options on the provider's treatment choice and by using data collected from the medical personnel in 3rd Regional Health System's health care facilities in Northern Greece.

Methods: The study is based on a convenience sample. The questionnaires included eight clinical vignettes describing symptoms of common infections. In antibiotic inappropriate vignettes the prescription choices were divided into over-the-counter and prescription drugs while in antibiotic appropriate vignettes, into narrow/ broad-spectrum or generic/ brand name drugs. Logistic regression was performed separately on each clinical case to confirm the effect of clustering on the probability of prescribing "undesirable" treatments (prescription drugs, broad spectrum antibiotics, brand name drugs) by physicians. Statistical analysis was performed using SPSS.

Results: The partitioning in the e-prescribing system influences the choices of physicians with an average reduction of 22%, across clinical vignettes in choosing "undesirable" treatments (prescription drugs, broad-spectrum antibiotics and brand name drugs).

Conclusions: Given the widespread use of e-prescribing systems, the grouping in treatment options interface may have a significant impact in guiding a prescribing system in meeting certain health policy goals (economic and/or quality wise).

Keywords: e-prescribing, nudging, behavioral economics



OP 10

LEADERSHIP DEVELOPMENT IN MILITARY HEALTHCARE ORGANIZATIONS

Maritsa Evangelia

¹Head of General Secretariat Division, Athens Naval Hospital, Athens, Greece, ²Main Teaching Staff, National Centre for Public Administration and Local Government, Athens, Greece, ³Instructor, Defense and Security Staff, Ministry of Citizen Protection, Athens, Greece

Relationship-oriented behavior has always been in the center of behavioral studies of leadership in organizations. However, little attention has been directed in relational interactions in healthcare organizations and much less in military healthcare settings. In the wake of all crises there is an emerging need to have military healthcare professionals and organizations that are adaptable, resilient and effective in such demanding health eco-systems. In this research it was argued that military leaders interact with military members and that those interactions influence the effectiveness of the organization. In this quantitative survey 53 leaders and 160 members of a military hospital participated and successfully established 160 leader-member dyads. It was found that leadership effectiveness is influenced by the dynamics that are born and evolved through the leader-member interrelatedness. Moreover, it was found that organizational silence of military members is a hindrance for quality leader-member exchanges and that open and frequent communication can support quality work-relationships. Understanding the dynamics that influence the quality of leader-member relationships in military healthcare settings can support the optimal leadership of human resources and can consequently enhance combat performance.

Key words: relational leadership, military hospitals, communication, leader-member exchanges, organizational silence

OP 11

STUDY OF CISPLATIN'S EFFECT ON THE RETINA AND THE PROTECTIVE ROLE OF SELENIUM

Konstantinidis I.^{1,2,3}, Nitsa M.^{2,3}, Tsokkou S.^{2,3}, Triantafyllou V.^{2,3}, Papadopoulou K.^{2,3}, Kavvas D.^{2,3}, Pavlidis P.^{4,5}, Tseriotis V.S.⁴, Sardeli Ch.⁴, Kouvelas D.⁴, Sioga A.^{2,3}, Papamitsou Th.^{2,3}, Karachrysafi S.^{2,3}

¹2nd Lieutenant (MED) of the Hellenic Air Force, 251 Air Force General Hospital, ²Research Team "Histologistas", Interinstitutional Postgraduate Program "Health and Environmental Factors", Department of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, ³Laboratory of Histology-Embryology, Department of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, ⁴Laboratory of Clinical Pharmacology, Department of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, ⁵ENT Clinic "G. Papanikolaou" General Hospital, Thessaloniki

Purpose: Cisplatin (CIS) is a well-known chemotherapeutic agent, that has as a main side effects the retinal toxicity. The main histopathological lesions that were noted are the degeneration and disorganization of the retinal layers as well as gliosis of the ganglion layer, fragmentation of photoreceptors with degeneration of cones and rods and ischemia at the optic nerve. Selenium (Se) has antioxidant and immunomodulatory activity. Studies have reported the effectiveness of Se and its actions as a potential reversible agent towards the toxicity caused by CIS. The purpose of the present study is to investigate the effect of intraperitoneal CIS administration on the retina and the possible neuroprotective role of Se.

Material and method: Forty adults male Wistar rats weighing 300-400g were divided into four main groups. Group A received CIS 3.5mg/kg intraperitoneally (ip) for 5 days, Group B CIS and Se 60mg/kg ip and Group D CIS 3.5mg/kg ip and Se 60mg/kg per os. Se administration started two days before and continued for 15 days after the end of the last CIS cycle. Group C was used as control group and no medications were administered. At the end of the drug administration, euthanasia was performed for the collection of the eyeballs and optic nerve. An immunohistochemical and ultramicroscopic study were performed under the optical and electron microscope respectively.

Results: Group C did not reveal any morphological or ultramicroscopic alterations. Group A showed alteration in the choroid layer and the stroma. In group B, morphological changes as well as alterations in the Inner limiting membrane (ILM) and connective tissue in the fibrous layer were noted. Similar lesions, with greater intensity were noted in group D.

Conclusion: The proven toxicity of CIS to the retina may lead to complications in vision. Combined administration of CIS with Se, which helps protect the retina, could be a preventative and therapeutic method towards the observed adverse reactions caused by CIS. Further randomised trials are required for application in oncology patients.

Keywords: retinal toxicity; cisplatin; selenium; ultramicroscopic; oncology



OP 12

LIFE-SAVING TEVAR IN TRAUMATIC AORTIC ISTHMUS RUPTURE: A CASE STUDY

Fanariotis G., Mpekas N., Chatzis D., Peroulis M.

Vascular Unit, Surgery Clinic, Faculty of Medicine, University of Ioannina

Blunt thoracic aortic injury (BTAI) is a high-energy trauma, and the majority of patients die at the accident scene, while those who manage to reach the hospital require immediate intervention. In 90% of cases, it involves the aortic isthmus, and the recommended treatment includes endovascular repair. Here, we report a rare case of blunt thoracic aortic injury (BTAI) in a 68-year-old female patient who presented to the emergency department following a pedestrian accident. The computed tomography revealed a grade III BTAI, which was subsequently treated with TEVAR. The patient was discharged from the surgery department with complete relief of symptoms and was transferred to the orthopaedic clinic for further management and rehabilitation. This case highlights the importance of time to diagnosis of BTAI and immediate intervention.

Keywords: blunt thoracic aortic injury, aortic isthmus, endovascular repair, TEVAR, aortic rupture

OP 13

COMBAT HEAD AND NECK TRAUMA; A CONTEMPORARY APPROACH

6th year Commanding Cadet (MD) Liatsos Alexandros¹, 5th year Cadet (MD) Valsamidis Nikolaos¹, 4th year Cadet (MD) Lefantzis Dimitrios-Elias¹, MAJ (MD) Triantafyllidis Agathaggelos², COL (MD) Toullos Petros²

¹Hellenic Military Academy of Combat Support Officers, Thessaloniki, Hellas, ²Neurosurgical Department, 424 General Military Hospital, Thessaloniki, Hellas

Aim: Head and neck injuries during combat operations have been a constant focus of interest for the military health community. Numerous data on such injuries have been collected, particularly over the last century, and their analysis has led to valuable strategies for their management. On this basis, this paper aims to investigate the main head and neck injuries and the consequent damage to internal organs, such as brain, sensory organs and blood vessels, in the battlefield, with a parallel approach to the fundamental principles governing their treatment.

Material – Method: A search of the current literature in the online databases PubMed, Scopus, Web of Science and CENTRAL was performed. For a more thorough approach to medical issues, material from neurosurgical and maxillofacial academic textbooks was also collected.

Results: Our search identified 50 scientific articles regarding head and neck traumatic lesions in combat. The number of relevant publications is directly associated with data from previous war operations.

Conclusions: The systematic study of traumatic brain, maxillofacial and neck injuries by the military scientific community dates from before World War I to the modern era, albeit there are similar recorded cases even since Homer's era. The study of the existing data and scientific progress has brought about radical changes in the treatment of these injuries, contributing significantly to the reduction of their frequency and severity of occurrence as well as their complications. Their management is carried out staggered at each stage of Tactical Combat Casualty Care, from the frontline of battle to the role 4 or 5 base hospital. Combat head and neck injuries can leave permanent anatomical and physiological deficits, which require a more complex and long-term treatment, whereas current innovative therapeutic approaches are being tested for the rehabilitation of such patients.

Keywords: combat trauma, neck, face, brain



OP 14

DE NOVO ATRIAL FIBRILLATION IN COMBAT SURVIVORS WITH INTRACRANIAL HEMORRHAGE: A CHALLENGING APPROACH THAT DICHOTOMIZES THE MEDICAL WORLD

**Soufras Vasileios-Panagiotis¹, Giannokostas Petros,
Antonopoulos Georgios², Tsiptsios Dimitrios³, Kazis Dimitrios**

¹4th Year Cadets (Med), Students, Hellenic Military Academy of Combat Support Officers, Thessaloniki, Hellas, ²Assistant Professor, ³1st Neurological Clinic of "George Papanikolaou" General Hospital of Thessaloniki, Thessaloniki, Hellas, ³Associate Professor, Head of 3rd Neurological Clinic of "George Papanikolaou" General Hospital of Thessaloniki, Thessaloniki, Hellas

Background / Introduction: Driven by the frequency of craniocerebral hemorrhage in combat missions and their association with Non-Valvular Atrial Fibrillation (NVAF), we gathered and analyzed the different medical approaches, Oral Anticoagulant (OAC) and Left Atrial Appendage occlusion (LAAO), based on existing evidence and studies.

Case study: A 70-year-old male patient with a history of hypertension and alcohol abuse was hospitalized due to acute brainstem syndrome. Computed tomography findings suggest medulla oblongata hemorrhage with damage to the nucleus ventralis of the vagus nerve, while Electrocardiogram findings show de novo atrial fibrillation. CHA₂DS₂-VASC Score: 2 and HAS-BLED Score: 5. We are called to analyze all the available medical approaches in order to prevent future intracranial hemorrhage (ICH) and ischemic stroke episodes. Correspondingly, medulla oblongata related NVAF can occur after craniocerebral injuries on the battlefield.

Conclusions: NVAF is extremely common among intracranial hemorrhage survivors. There is a high relative risk of ischemic stroke and recurrent OAC-related ICH in this group. However, the approach to these patients is complicated, because the opinions differ between the usage of OAC (best type -starting time) and the net benefit of LAAO over them. The treatment's difficulty lies in all the factors the attending physician must consider and the personalization in every case.

Discussion: Based on the United States Army's medical guidelines, NVAF is a prohibitive factor for his participation on the battlefield. How does the Hellenic Department of Defense confront this type of active personnel? Can LAAO treatment be a savior solution to personnel's inability to participate in combat?

Keywords: Atrial Fibrillation, Intracranial Hemorrhage, LAAO

OP 15

MANAGEMENT OF PENETRANT EYE INJURIES

Lieutenant colonel Nenad Petrovic, Colonel Miroslav Vukosavljevic

Military Medical Academy, Belgrade, Serbia

Introduction: Eye injuries are among the most common causes of unilateral blindness in the world. They are characterized by extensive damage to the tissue of the eye and often surrounding structures and can be within the polytrauma. They are also characterized by prolonged recovery, a higher percentage of complications during and after surgery.

Goal

To present experiences and doctrine in dealing with penetrant eye injuries, with or without an intraocular foreign body, through appropriate video material and photographs created during 25 years of work, as well to present post-operative results of long term patients monitoring.

Elaboration: For the successful resolution of penetrant eye injuries it is necessary to have good diagnostics, start prophylactic antibiotic treatment and determine optimal time for surgery, as well as type of procedure. All of this is necessary to work with the consultation of other specialists. The approach is different depending on whether it is an injury with or without an intrabulbar foreign body.

Conclusion: Optimal conditions for the treatment of penetrant eye injuries should be provided, starting with adequate primary care and transport. Primary wound closure should only be done if there are adequate conditions and sufficiently experienced and trained personnel. It is very important to develop and respect appropriate procedures in primary care, diagnostics, operations and post-operative care of the patient, while respecting the principles of individual approach.



OP 16

A NOVEL DIGITAL TRIAGE SYSTEM FOR MASS CASUALTY INCIDENTS

Athanasiadis C. Spyridon¹, Ouzounglou Eleftherios¹, Dionysiou Dimitra¹, Vosinakis Giorgos¹, Argyri Katerina¹, Mitro Nikos¹, Stavrou Kostas¹, Chatzimichelakis Stefanos¹, Gkatzogias Apostolis¹, Karagiannidis Lazaros¹, Amditis Angelos¹

¹Institute of Communication and Computer (ICCS), Greece

NIGHTINGALE aims to optimise current procedures and methods and to enhance the operational capacities of emergency medical services and civil protection agencies in mass casualty incidents. NIGHTINGALE will offer intelligent, integrated, and interconnected tools and services. In the content of the NIGHTINGALE toolkit a novel digital triage system is under development. This paper presents the novel digital triage system developed by Institute of Communication & Computer Systems (ICCS). The system consists of four main parts: i) a Digital Triage Tag (DTT) which is a wearable device that will be placed by the FR on the victim's wrist. It serves as a Unique IDentifier (UID), presents the triage status of the victim and integrates vital signs capabilities to monitor several health-related parameters such as Oxygen Saturation, Blood Pressure, Heart Rate, Respiratory Rate, Temperature, Heart Rate Variability, Galvanic Skin Response. ii) a mobile application that controls the wearable device, collect information about the victim and its main purpose is to visualize, manage, store and transmit data received from the DTT. iii) a web application running on desktop computers or tablets able to visualize information collected by the mobile app in a user-friendly and Geographic Information System (GIS)-based User Interface (UI) and iv) a Augmented Reality (AR) Glasses for triage-related on-field activities aiming to facilitate as much as possible hands-free operational experience for the First Responders (FRs).

Keywords: Digital Triage, Crisis management, First Responders, Track and Triage

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OP 17

COMPARISON OF THE USAGE OF THE THREE MOST EFFECTIVE BATTLE FIELD TOURNIQUETS DURING BATTLE SIMULATION TRAINING

Dimos Konstantinos^{1,4}, Stavraki Marianna², Pakos Emilos¹, Kitsakos Athanasios³, Tzeliolis Ioannis¹, Korompilias Anastasios¹

¹Department of Orthopaedics, University of Ioannina, Ioannina, ²Filippiada Health Center, Filippiada, ³Emergency Department, University Hospital of Ioannina, Ioannina, ⁴8th Motorized Infantry Brigade, Kalpaki – Konitsa Battalion of National Guard, Ioannina

Introduction: During the last three decades, battlefield tourniquets compose an integral part of Tactical Combat Casualty Care (TCCC) in the military environment. They have been crucial in the management of extremity injuries by decreasing the mortality rate during military conflicts.

Purpose: The aim of the present study is to compare the usage and effectiveness of three different battlefield tourniquets, in battle simulation scenarios, evaluating various parameters.

Methods: Between 2023 and 2024, two combat platoons with 8 members each, were formed and asked to perform self application of different tourniquets under stress during several battle simulations. The selected tourniquets were a) Combat Application Tourniquet (CAT) generation 7, b) Special Operation Forces Tactical Tourniquet Wide (SOFTT-W) generation 4 and c) Dnipro Tourniquet generation 2.

Every member used each tourniquet, both wet and dry, on their dominant upper and lower extremities, under the supervision of two certified combat medics. The participants were trained as first responders. Pain scores, muscle strength, attitude measuring, speed of tourniquet application and the presence of peripheral pulse, using a portable Doppler, were evaluated.

Results: The platoon members completed 480 tourniquet applications during 14 trainings and 32 applications during laboratory testing, following the TCCC guidelines. The tourniquet with the fastest application was CAT and the most effective at controlling blood flow was Dnipro. No significant differences between wet and dry tourniquet use were observed.

Conclusion: CAT and Dnipro tourniquets were selected by our battalion for operative use.

Keywords: battlefield tourniquet, extremity injuries, Tactical Combat Casualty Care.

OP 18

REBOA DURING MEDEVAC. A TOOL FOR CRITICAL CARE AIR TRANSPORT (CCAT) TEAM. THINGS TO CONSIDER, CHALLENGES TO TAKE

LTC Degermetzoglou Nikolaos, MD, MSc, PhD(c)^{1,2},

MAJ Theocharopoulos Georgios, MD¹, COL Bountouris Ioannis, MD, PhD¹

¹Vascular Surgery Clinic, 251 Hellenic Air Force General Hospital, Athens, Greece, ²Emergency and MEDEVAC Department, 251 Hellenic Air Force General Hospital, Athens, Greece

Introduction: REBOA (Resuscitative Endovascular Balloon Occlusion of the Aorta) can be employed as a life-saving intervention for patients with severe hemorrhage. By temporarily occluding the aorta, REBOA helps control bleeding from pelvic or abdominal injuries, stabilizing the patient's condition during transport to a medical facility where definitive care can be provided. This intervention can significantly improve the chances of survival for critically injured patients during evacuation

Purpose: Presentation of REBOA technique during CCAT, as a tool for stabilizing critical patients during flight.

Method: Literature and STANAGs analysis and review. Lessons learned from MEDEVAC operations and comparison between guidelines for use.

Results: Critical Care Air Transport, commonly known as CCAT, refers to the specialized medical transport of critically ill or injured patients by air. It involves a highly trained medical team and equipment to provide necessary care during the flight. The flight itself has a lot of limitations, medical indications and contra-indications, and an unstable environment. REBOA is an excellent tool for stabilizing critical patients with internal bleeding, who require transport to a definite care medical facility. However, there are specific limitations in its use, such as time, sterile placement, the necessity of ultrasound equipment, continuous monitoring of the patient and the stability of the balloon. During flight, the procedure can only be executed in a stable height and total time should not exceed an hour due to the ischemic phenomena that take place afterwards. Limitations of the technique create challenges to take in order to further improve and develop this saving procedure.

Conclusions: Further research related to use of REBOA in CCAT must be focused on earlier diagnosis of bleeding, accurate criteria for initiation of REBOA after injury which may depend on development of rapid vascular access devices and techniques more so than on any other new improvements in REBOA. New technology is needed that permits extended mitigation of ischemia reperfusion injury below the balloon increasing duration for safe use of REBOA. For the field of REBOA to continue to progress, better visualization tools with regard to cannulation and targeted training of medical providers are critical.



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POSTER PRESENTATIONS

POSTER PRESENTATIONS

PP 01

EVALUATION OF A CHROMOGENIC AGAR MEDIUM FOR THE DIFFERENTIATION OF NON-ALBICANS *CANDIDA* STRAINS

Sergouniotti Athanasia, Tsonou Panagoula, Kyfonidi Vassiliki-Sotiria, Koutoudi Pantoula, Zoitopoulos Vasileios

General Hospital of Amfissa - Amfissa (Greece)

Background: The increased prevalence of *Candida* infections has rendered necessary the identification of non-albicans *Candida* strains up to the level of species. Chromogenic culture media are proposed as an easy-to-use and economical solution for the rapid differentiation of these strains. The aim of our study is to evaluate the use of a chromogenic agar medium for the differentiation of non-albicans *Candida* strains isolated by clinical samples.

Methods: Forty strains of yeasts grown in cultures of various biological specimen (urine, feces, vaginal smears, wounds) were collected during the time period 1/7/22-31/12/22. The strains were cultured in a chromogenic medium suitable for the differentiation of *Candida* species, *Candida auris* included (Chromagar Candida Plus, Bioprep). After 48 hours of incubation, the yeasts were preliminarily classified as *Candida albicans* (43 strains) or non-albicans *Candida* (17). Non-albicans strains were further identified with the Microscan Autoscan system (Leriva).

Results: In total 17 yeast strains were tested (Figure 1). Of these, one strain was identified as *Saccharomyces cerevisiae*, while of the remaining 16 strains, they were identified as it follows: three (3) as *Candida parapsilosis*, one (1) as *Candida tropicalis*, one (1) as *Candida krusei*, eight (8) as *Candida glabrata* and three (3) as *Candida kefyr*. In the chromogenic medium, the non-albicans strains were clearly distinguished from *Candida albicans*. The non-albicans strains that macroscopically differed significantly from the rest were: a) the *Candida parapsilosis* strains, although these strains did not present homogeneity in terms of the shape and color of their colonies b) the *Candida tropicalis* and c) the *Candida krusei* strains. However, only the *Candida tropicalis* strain could be reliably identified based on the color guide of the material.

Conclusions: The value of using chromogenic agar medium for the differentiation of *Candida* strains lies in the easy distinction of *Candida albicans* from the rest, non-albicans strains. However, species-level discrimination of non-albicans strains requires a high degree of familiarity with the use of each chromogenic medium and may not be as satisfactory, especially for species whose colonies present similar characteristics.

PP 02

SCROTAL ABSCESS CAUSED BY *STREPTOCOCCUS AGALACTIAE* AND *STREPTOCOCCUS MUTANS* IN A PATIENT WITH HIDRADENITIS SUPPURATIVA

Sergouniotti Athanasia, Tsonou Panagoula, Karagiani Aikaterini, Zoitopoulos Vasileios

General Hospital of Amfissa - Amfissa (Greece)

Background: *Streptococcus agalactiae* has been primarily associated with neonatal infections (bacteremia, meningitis). In adults, it is implicated in a variety of infections, including skin and soft tissue infections. *Streptococcus mutans* belongs to the viridans streptococci, colonizes the oral cavity, has been isolated from dental caries and atheromatous plaques and implicated as a cause of infective endocarditis. Hidradenitis suppurativa (acne inversa) is a chronic inflammatory skin condition with lesions including deep-seated nodules and abscesses, draining tracts and fibrotic scars, usually occurring in intertriginous areas and areas rich in apocrine glands. We present a case of scrotal abscess caused by *S. agalactiae* and *S. mutans* in a patient with hidradenitis suppurativa.

Case description: A 43-year-old male patient, obese, smoker came to the surgical outpatient clinic seeking treatment for an abscess in his scrotum. For the past seven years, the patient had presented with inflammatory, painful lesions on the inner surface of the thighs, for which he had sought the advice of a dermatologist and had received a variety of therapeutic regimens, without success. In the past, cultures carried out on biological specimen taken from the lesions did not develop any pathogen. The diagnosis of hidradenitis suppurativa was made by exclusion. During the last four months, an exacerbation of his symptoms and the formation of an abscess in the scrotal area, were treated with repeated, small-scale drainages and empiric antibiotic administration. Finally, due to a new relapse and increased intensity of symptoms, he underwent a new incision and drainage and was given amoxicillin/clavulanic 875/125 thrice daily. At the same time, a swab sample taken from the lesion was sent to the laboratory for microbiological testing. After a 48-hour incubation, two Gram(+) cocci, identified as *Streptococcus agalactiae* and *Streptococcus mutans*, grew in the blood agar and chocolate agar. Identification and susceptibility testing were performed with the Microscan Autoscan system (Leriva).

Discussion: In the present work, we report a rare case of a scrotal abscess that developed on hidradenitis suppurative skin lesion, caused by two pathogens, *Streptococcus agalactiae* and *Streptococcus mutans*.

PP 03

SEROEPIDEMIOLOGY OF TOXOPLASMA, RUBELLA AND CMV INFECTIONS IN WOMEN OF REPRODUCTIVE AGE IN THE AREA OF FOKIS, GREECE

Sergouniotti Athanasia¹, Rigas Dimitrios², Kyfonidi Vassiliki-Sotiria², Margonis Georgios¹, Zoitopoulos Vasileios¹

¹General Hospital of Amfissa - Amfissa (Greece), ²Hellenic Open University - Patras (Greece)

Background: Congenital *Toxoplasma*, *Rubella* and *CMV* infections have been associated with a variety of adverse pregnancy and neonatal outcomes of paramount importance for maternal and child health. Serum screening for specific IgG&IgM antibodies on women of reproductive age is the first step towards understanding the seroepidemiology of these infections. Our purpose is to study the prevalence of IgM and IgG antibodies to *Toxoplasma gondii*, *Rubella* virus and *CMV* in women of childbearing age, in the area of Fokis, Greece.

Methods: We recorded the results of anti-Toxo IgG&IgM, anti-Rubella IgG&IgM and anti-CMV IgG&IgM antibody tests in women of reproductive age, performed in our Laboratory, during a period of ten years (01/01/2013-31/12/2022). We applied descriptive statistics on the collected data, using the IBM SPSS v20 software.

Results: A total of 384 women of reproductive age (15-49 yrs, median 37 yrs) were examined for a ten-year period (01/01/2013-31/12/2022). The study population was divided in four categories, on the basis of their age: 15-24 yrs, 25-34 yrs, 35-44 yrs and >45 yrs. The prevalence of positive anti-Toxo/IgM&IgG, anti-Rubella/IgM&IgG and anti-CMV/IgM&IgG antibodies in each category is presented in Table 1. The last positive anti-Rubella IgM was recorded in 2020, meaning that the 1,30% of the overall prevalence of positive anti-Rubella IgM was due to infections prior to 2020. New *Toxoplasma* infections were rare (positive anti-Toxo/IgM 1,3%), whereas new *CMV* infections were not uncommon (positive anti-CMV/IgM 6,77%). Moreover, the serological profile of the young women (15-24 yrs) reveals that: a) the prevalence of anti-Rubella/IgG is relatively low (64,71%) b) according to the Levene test (test of equal variances) it appears that the prevalence of anti-Toxo/IgG in the first category have a different variance ($p < 0.001$) compared to the other categories, and c) as for the prevalence of positive anti-Toxo/IgG, according to the independent samples t-test, the first category differs statistically significantly at the 1% level ($p\text{-value} \leq 0.001$), compared to the other categories.

Conclusions: There is limited recent information considering the seroepidemiology of *Toxoplasma* and *CMV* infections in women of reproductive age, regarding the European countries and the USA. Given the seriousness of these infections for the health of mother and child, constant vigilance and monitoring of the serological parameters is important.

PP 04

A RARE CASE OF STAPHYLOCOCCUS SCIURI VAGINAL INFECTION

Sergounioti Athanasia, Tsonou Olga, Koutoudi Pantoula,
Zoitopoulos Vasileios

General Hospital of Amfissa - Amfissa (Greece)

Background: *Staphylococcus sciuri* belongs to the coagulase-negative, oxidase-positive, novobiocin-resistant staphylococci and is primarily isolated from domesticated and wild animals. *Staphylococcus sciuri* may colonize humans and has been isolated from human clinical specimen, and also, has been rarely associated with endocarditis, peritonitis, septic shock, urinary tract and wound infections. Although *S. sciuri* does not seem to pose an emerging danger to human health, it is attracting clinical interest as it is assumed to be a potential reservoir of staphylococcal cassette chromosome (SCC) elements carrying a *mecA* gene. We describe a case of *S. sciuri* vaginal infection in a young woman.

Case description: A 32-year-old woman sought medical advice for dysuria and symptoms of atypical vaginitis. The patient did not mention any contact with domestic or wild animals. She had received treatment for a urinary tract infection caused by a pansensitive strain of *Klebsiella pneumoniae* two months ago, but she was still experiencing itching and burning, mostly during urination. The urine culture revealed no growth, so her physician requested a full microbiological examination of vaginal smear. Neither yeast, trichomoniasis, clue cells nor lactobacilli were found in wet mount, however, numerous white blood cells (50-60 hpf) were observed. Micrological testing for *Chlamydia trachomatis* was negative. After 48h of incubation, the culture for *Mycoplasma hominis* and *Ureaplasma urealyticum* was negative, whereas on the blood and chocolate agar, there was abundant growth of a Gram-positive, catalase-positive coccus, which was identified as *Staphylococcus sciuri* with the Microscan Autoscan System (Leriva). The strain was susceptible to tigecycline (MIC ≤ 0.12 mg/L) and fosfomycin (MIC ≤ 32 mg/L). Based on the results of the susceptibility test, the gynecologist considered the administration of fosfomycin as a potential therapeutic approach and Lactobacillus replacement therapy in order to restore the vaginal microbiota.

Discussion: There is sparse literature connecting *S. sciuri* with gynaecological infections. In the case we presented, we assume that the administration of antimicrobial medication for the treatment of a previous urinary tract infection led to a severe disturbance of the normal vaginal microflora and to the subsequent emergence of *S. sciuri* as a pathogen.



PP 05

APPLICATION OF MACHINE LEARNING MODELS IN DETECTING SARS-COV-2 IN NEONATES

Dobrijević Dejan^{1,2}

¹Faculty of Medicine, University of Novi Sad, Serbia, ²Institute for Children and Youth Health Care of Vojvodina, Novi Sad, Serbia

Background: To efficaciously mitigate the transmission of the recently identified beta coronavirus, SARS-CoV-2, the expeditious identification of positive cases and their subsequent isolation assumes paramount importance, particularly within the neonatal population. Within this context, machine-learning algorithms, constituting a subfield of artificial intelligence, have garnered acknowledgment as a prospective and impactful tool to facilitate the aforementioned objective.

Methods: A cross-sectional study included 43 neonates: 18 with confirmed SARS-CoV-2 infection and 25 as a control group (SARS-CoV-2 PCR-negative). Five machine-learning algorithms, utilizing complete blood count data, were tested: decision tree, random forest, support vector machine, multilayer perceptron, and k-nearest neighbors. The training set underwent validation through stratified cross-validation, and algorithm performance was confirmed using an independent test set.

Results: The SARS-CoV-2 group exhibited a mean age of 18.2 ± 7.3 days, with a representation of females comprising 38.9%. In contrast, the control group demonstrated a mean age of 21.9 ± 6.9 days, with a higher female representation of 56%. Notably, among the tested machine-learning algorithms, the multilayer perceptron manifested the highest accuracy, attaining a noteworthy 74.4%. Furthermore, the performance metrics of the multilayer perceptron model revealed a nuanced pattern, indicating a higher sensitivity relative to specificity. The model, in its predictive capacity, exhibited a superior negative predictive value compared to the positive predictive value, underscoring its proficiency in correctly identifying true negative cases, albeit with a slight trade-off in terms of specificity.

Conclusion: This study has significant clinical implications, aiding healthcare providers in the early identification of neonates with COVID-19 before PCR and/or antigen testing. Additionally, the use of machine-learning algorithms has the potential to improve testing efficiency without adding extra costs to healthcare facilities.

Keywords: SARS-CoV-2; Neonates; Machine Learning Algorithms

PP 06

STRESS FRACTURES IN AIR FORCE MILITARY CADETS: REPORT OF 2 UNUSUAL CASES

**Major Raptis Konstantinos, Dr. Koutserimpas Christos,
Lt. Colonel Terpsithea Koureta, Colonel Karamitros Athanasios**

Department of Orthopaedic Surgery, 251 Hellenic Air Force General Hospital, Athens, Greece

Introduction: Stress fractures are common in military population, especially in military school education period. They occur generally due to bone fatigue, rather than due to bone metabolic insufficiency. Virtually, any bone can be affected, but the tibia, tarsal and metatarsal bones are the most common sites of stress fractures in military personnel. We present 2 rare cases of stress fractures in military cadets of Greek Airforce Military School.

Material – Methods: The first case was a 18 years old male complaining for bilateral thigh pain and inability to continue his military training. X-rays revealed bilateral radiolucent lines in the medial cortex of both femurs at the subtrochanteric area. The serum laboratory examination of bone metabolism and DXA scan were within normal limits. Magnetic resonance imaging (MRI) and bone scintigraphy were performed showing bone oedema at the medial cortex of the subtrochanteric area of both femurs. The second case was a 18 years old male cadet complaining of persistent pain in both hips 3 weeks after he started basic combat training in the Academy. Radiological investigation revealed a radiolucent line in the right iliac bone, whereas pelvic MRI revealed bilateral bone marrow edema and stress fractures in both iliac bones. The biochemical markers of bone turnover and DXA scan were normal.

Results: In the first patient based on clinical examination and laboratory results the diagnosis of bilateral fatigue femoral fractures was established. He was treated conservatively with protected weight bearing for 6 weeks and he returned to his training after 3 months. In the second case the diagnosis of bilateral iliac bone stress fracture was setted and the patient followed conservative treatment with ambulation with crutches for a 6-week period and progressive returning to physical exercise. After a 3 months period he was free of pain and returned to his previous level of activity in Academy without major restrictions.

Conclusion: Lower extremity stress fractures among military recruits are common and they are related to significant morbidity, fiscal costs, and time lost from training. Bilateral location of stress fractures is extremely rare, whereas this report in iliac crest and in femur makes these unusual cases unique in the literature. It is of note that their insidious onset and the usually lack of signs in the initial radiological examination makes their diagnosis challenging.



PP 07

THE INFLUENCE OF NURSING LEADERSHIP IN FACILITY HEALTH CARE SETTING

Maragkou Elissavet¹, Liarigkovinou Angeliki²

¹Commander Nurse in Hellenic Navy, MSc in Critical Care Nursing, MPH candidate in Public Health School-University of West Attica, Athens, Greece, ²EDIP A' (PhD) Teaching Staff at the Public Health Policy Department, Public Health school, University of West Attica, Athens, Greece

Introduction: Nursing leadership in healthcare units wields a profound influence on organizational dynamics, yielding diverse outcomes. The leadership process delves into the essence of leadership, its various manifestations, the defining traits of effective leaders, and their impact on individuals or staff groups striving towards specific goals within defined conditions.

Purpose: This study aims to scrutinize the significance of nursing leadership and its different forms in the overall functioning of healthcare units. This will be achieved through a comprehensive synthesis of empirical evidence gathered according to predefined selection criteria.

Methods: For this paper was employed a literature review method. Also, the research draws on articles sourced from prominent databases such as Pubmed, Google Scholar, and Scopus, with inclusion criteria centered on English language publications. The search strategically employs the following keywords: nurse management, nurse leadership, performance, efficiency, effectiveness, and job satisfaction.

Findings-Results: The conduct of a leader exerts a substantial influence on goal attainment within the organization. Notably, the transformational leadership model stands out for its profound impact on employee performance. Recognition, support, and reinforcement from leaders contribute significantly to a sense of security among subordinates, fostering heightened well-being in the workplace.

Conclusion: The pivotal role of leadership in enhancing satisfaction levels among healthcare workers cannot be overstated. This not only enhances their job contentment but also positively impacts the satisfaction of those benefiting from their services. Consequently, prioritizing research that delves into the correlation between national leadership in healthcare facilities and its influence on work effectiveness is crucial.

Key Words: nurse management, nurse leadership, performance, efficiency, effectiveness, job satisfaction

PP 08

NEEDLESTICK AND SHARPS INJURIES AMONG HEALTHCARE WORKERS AT A MILITARY HOSPITAL IN GREECE: A RETROSPECTIVE SINGLE-CENTRE STUDY

Stamataki Petroula¹, Gaitanou Konstantina¹, Kagiari Maria²,
Kagiari Georgios², Chandrinou Aggeliki¹

¹Naval Hospital of Athens, ²401 General Military Hospital of Athens

Introduction: A well-recognised risk for healthcare workers (HCWs) worldwide is the exposure to bloodborne pathogens due to sharps injuries. Hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) are the most commonly transmitted viruses.

Methods: From January 2019 until December 2023, every reported occupational exposure of healthcare workers in a military hospital has been registered by the infection control nurse of the hospital. The protocol of the study was approved by the Ethics Committee of the hospital.

Results: During the monitored period (January 2019 until December 2023), 165 accidents were reported. 52% of the exposed HCWs (n=86) were nurse assistants, 18% (n=29) were nurses and 16% (n=26) were physicians. Most accidents happened in 2022 (n=51) and the least accidents took place in 2020 (n=25). Needlestick injury was the most common type of exposure (n=144). Most needlestick injuries occurred during blood glucose measurement (n=51) (needle 26 G) and venipuncture procedure either for blood sample collection for laboratory testing (n=41) (needle 21G) or administering or disposing of an intravenous catheter (n=37). 8 accidents occurred using suture needles. Only 4% of the injuries happened during the recapping of a used needle (n=7). Cuts with a sharp object were 7% (n=12). 7.2% (n=12) did not wear gloves. 3.6% (n=6) were not vaccinated against HBV, 5.4% (n=9) did not know their vaccination status. Serological tests of the exposed HCWs showed that all HCWs tested negative for Anti-HCV, all HCWs tested negative for anti-HBV, only one (0.6%) health worker was found HbsAg positive. Serological tests were prescribed for 129 HCW in 1.5, 3 and 6 months after the incident.

Conclusion: Training on the appropriate handling of sharps, use of personal protective equipment and vaccination against HBV are the main strategies that need to be established in order to minimize needlestick and sharps injuries.

Key Words: Needlestick injuries, sharps injuries, occupational safety

PP 09

HYPERBARIC OXYGENOTHERAPY IN THE TREATMENT OF THE PATIENT WITH CHRONIC LYME DISEASE– CASE PRESENTATION

Stipančević Hrvoje¹, Boris Zdilar², Pavle Jovović¹, Antonia Perković¹

¹Naval Medical Institute, Split, ²CHOD Croatian Armed Forces, Zagreb

A 33-year-old female is referred for Hyperbaric Oxygenotherapy (HBOT) due to critical limb threatening ischemia of her right calf. Medical history reveals the course of various conditions lasting more than 4 years. It started with recurrent pneumonia with continuous feverishness, atypical skin rash, general weakness, depression, and fatigue lasting over a year until blood testing detected antibodies to *Borelia burgdorferi*. Over the next three years she was treated multi-disciplinarily for celiac disease, hypertension, asthma, COVID-19, lipedema of the upper arms, and lymphoedema spreading through the right side of the body from the knee to the armpit and breast, which caused the current impairment of circulation in her right calf. HBOT was planned as a series of 20 sessions at a working pressure of 2.2 ATA lasting 60 minutes each, with precautions because of several relative contraindications. During the second week of treatment the patient developed an exacerbation of chronic Lyme disease (CLD) symptoms consistent with the Jarisch-Herxheimer reaction which she recognized from a previous experience. Subsequently, the treatment plan was extended to 40 sessions. On discharge, the lymphoedema partially abated and the previously ischemic calf regained a normal color. The patient also reported a major reduction in the intensity of multiple symptoms. The treatment was repeated two more times with 16-week. The patient demonstrated a significant recovery which enabled her to return to regular activities.

CLD can mimic many disorders and cause a serious disability. Here, the Jarisch-Herxheimer reaction with a delayed reduction of symptoms and an eventual improvement coincided with HBOT which indicates that this treatment might provide a beneficial effect on CLD.

Key words: hyperbaric oxygenotherapy, boreliosis,

PP 10

AN ARTIFICIAL NEURAL NETWORK FOR VIRTUALLY INCREASING THE SAMPLE SIZE OF CLINICAL STUDIES

Nikolopoulos Anastasios^{1,2}, Karalis D. Vangelis^{1,2,*}

Department of Pharmacy, School of Health Sciences, National and Kapodistrian University of Athens, Athens, Greece

Institute of Applied and Computational Mathematics, Foundation for Research and Technology Hellas (FORTH), 70013 Heraklion, Greece

Sample size determination holds paramount importance within the domain of clinical trials. A sufficiently large sample can yield valuable insights into a designated population. However, acquiring substantial data entails notable financial and temporal costs. The objective of this work is to introduce an innovative approach to reduce the necessary sample size in clinical trials, achieved through the utilization of a specific type of artificial neural network (ANN). The core concept can be succinctly summarized: a) executing the clinical study with a limited number of participants, and b) leveraging the outcomes from “a” to subsequently employ an ANN, thereby generating virtual subjects and enhancing statistical power. The optimal scenario would involve achieving robust statistical power without concomitantly elevating the false positive rate. The research work is implemented by the joint use of Monte Carlo simulations of clinical studies along with the use of the ANN. This investigation elucidates that the integration of ANNs into the clinical trial context harbors the potential to serve as a valuable tool for diminishing the requisite sample size, thereby culminating in reduced associated expenditures and temporal investments.

Keywords: ANN; sample size; clinical studies

MILITARY MEDICAL TEAMS IN HELICOPTER MEDICAL EVACUATION OF CIVILIANS IN CROATIA

Zdilar Boris¹, Gjuric Mario², Maruncic Antonija³, Zrno Matea³

¹CHOD's Medical Assistant, ²Office of Medical Assistant, ³Military Health Centre

The cooperation between the military and the civil community regarding medical emergencies is regulated by a bilateral agreement between the Ministry of Defense and the Ministry of Health, Republic of Croatia. Weekly rotations of two military medical teams of the Croatian Armed Forces located on island Krk provided 24/7 medical assistance for the local population and tourists too. The helicopter fleet of the Croatian Air Force covers the whole Croatian coastal region in such needs. The aim of this retrospective study is to analyze the quantity of flights and the types of medical interventions carried out from May 2016 until 2024. The data were collected from the forms filled in by the medical officer, about the patients. Data showed that military medical teams carried out 2400 helicopter medical evacuations, including 3000 patients. All patients were civilians, 80% of them were Croats. The most frequent causes were: trauma, cardiovascular diseases, cerebrovascular diseases, breathing issues and pregnant women. The total number of flying hours was almost 3000. The average distance between the place of intervention and the hospital is 55 km. The time between the first call and the return to the helicopter base was 60 minutes averagely. All patients were transported to Clinical Hospital Center Rijeka. It could be concluded that military medical teams of Croatian Armed Forces and military helicopter fleet of Croatian Air Force play important role in management of medical emergencies of the civilians in Croatia.

Keywords: military medical teams, helicopter medical evacuation, civil patients

PP 12

DEPLETED URANIUM: IT'S HERE TO STAY. SHOULD WE CARE?

Kalaitzoglou Asterios, Cpt Med, Nuclear Medicine Physician, MSc

Hellenic Military Academy Of Combat Support Officers, Thessaloniki, Greece

Introduction: Depleted uranium (DU) is a byproduct of nuclear fuel sustaining uranium-operated nuclear reactors. Natural Uranium is mined as U_3O_8 contained in mineral uraninite and contains three main isotopes, in order of abundance, ^{238}U , ^{235}U and ^{234}U . ^{235}U is desired for its fissile nature. Uraninite undergoes a process called enrichment to become reactor fuel. DU is the main byproduct, or as it is called "tails", of this process. Because of its physical and chemical properties, namely its high density of 19.1 g/cm^3 (higher than that of lead, 11.4 g/cm^3), DU is used in various civilian and military applications. The author's aim is to summarize medical scientific knowledge around the health risks arising from military DU use, as well as underline the decline in scientific interest since the use of DU has become widespread.

Methods: The Pubmed database was searched using keywords such as "depleted uranium", "ammunition" and "toxicity". Results were then filtered for year of publication, to categorise scientific interest in DU per medical field through the course of time.

Results: Short-term effects of DU military applications arise from the aerosol created upon impact of DU ammunition. These effects mainly concern the kidney, which is the path of elimination of DU in humans. Long term effects have yet to be clarified, with many authors connecting DU ammunition to Gulf syndrome. Bibliography and by extension scientific interest in DU picks up in the 1990s, following the first use of DU ammunition in the Gulf War and reaches its maximum in 2009, when a multitude of studies on laboratory animals and war veterans produce their results. Studies on the environmental effects of DU ammunition closely follow those on humans.

Discussion: Seeing as DU has many civilian applications, interest in DU production is unlikely to decline. Medical science ought to stay vigilant as to the health risks of military use of DU.

Keywords: Depleted Uranium, radioisotopes, ammunition, radioactivity, toxicity

PP 14

COGNITIVE AND PHYSIOLOGICAL RESPONSES DURING ACUTE EXPOSURE TO HYPOBARIC HYPOXIA: THE ROLE OF AEROBIC CAPACITY

Soukara Evangelia^{1,2}, Lieutenant, RN, BSc, MSc (c), Geladas Nikos², Professor Bogdanis Gregory², Professor, Pilatis Ioannis³, Colonel, Aircraft Mechanic, Koskolou Maria², Associate Professor

¹251 General Air Force Hospital, Athens, Greece, ²School of Physical Education and Sport Science, National and Kapodistrian University of Athens, Athens, Greece, ³Center for Aviation Medicine, Athens, Greece

Hypoxia has always been a significant physiological threat for a military pilot while operating at high altitudes. Cognitive function during flight is considered to be affected by physical fitness factors.

The aim of the present study was to investigate potential relationships among aerobic capacity and physiological as well as cognitive responses of pilots during acute exposure to severe hypoxia.

Twenty-one novice pilots participated in two experimental procedures. The first one was conducted under normoxia and included measurements of maximal oxygen uptake ($VO_2\text{max}$) and body composition (body fat percentage, %BF). The second one assessed the pilots' responses to hypoxia by acutely exposing them to hypobaric hypoxia of 7620 m during a flight simulation, where time of useful consciousness (TUC), namely the period of effective and safe performance of operational tasks following exposure to hypoxia, and reaction time (RT) to a single stimulus (MSRT) and multiple stimuli (MCRT) were measured along with heart rate (HR) and percentage of hemoglobin saturation with oxygen (SpO_2).

$VO_2\text{max}$, expressed in relative values, showed a positive correlation with TUC ($r = .37, p < .05$) and a negative correlation with MCRT ($r = -.45, p < .05$) and with the rate of SpO_2 decrease in hypoxia ($r = -.37, p < .05$). Also, MSRT and MCRT were positively correlated with the rate of SpO_2 decrease during exposure to hypoxia ($r = .38, p < .05$ and $r = .81, p < .01$, respectively). In conclusion, it appears that a higher aerobic capacity in novice pilots is related to slower SpO_2 decrease, higher TUC and shorter MCRT, when exposed to 7620 m simulated hypobaric hypoxia, enabling them to act effectively for a longer period of time during a flight.

Keywords: hypoxia, novice pilots, aerobic capacity, cognitive function

PP 15

MENTAL HEALTH CONSEQUENCES OF COMBAT TRAUMATIC BRAIN INJURIES ON MILITARY PERSONNEL

6th year Cadet (MD) Ilaridou Iliana¹, 6th year Cadet (MD) Pachymanolis Evangelos¹, 6th year Commanding Cadet (MD) Liatsos Alexandros¹, COL (MD) Valamoutopoulos Theodoros²

¹Hellenic Military Academy of Combat Support Officers, Thessaloniki, Hellas, ²Psychiatry Department, 424 General Military Hospital, Thessaloniki, Hellas

Aim: Traumatic brain injury (TBI) is one of the most common injuries in modern military conflicts. The impact of these injuries on the mental health of military personnel has been of great concern to the scientific community in recent years. In this paper, an attempt was made to investigate the association between TBIs and their subsequent mental health effects, delving in parallel into their pathophysiological mechanisms as well as current treatment strategies. In addition, special references were made to Special Operations Forces (SOF) that represent a small but distinct subpopulation within the military community and face increased risk for traumatic brain injury (TBI).

Materials – Methods: Literature data were collected through search mainly on online databases such as PubMed, Scopus and Elsevier, using relevant keywords.

Results: Our initial search yielded over 100 results, which underwent a more meticulous assessment in terms of their thematic relevance and resulted in a crucial number of 20 studies particularly oriented towards the point of interest of current study.

Conclusions: A systematic study of articles related to TBIs showed a significant correlation with mental disorders experienced by military personnel. Among them predominant were affective symptoms, suicidal behavior, posttraumatic stress disorder (PTSD) and major depressive disorder (MDD). Furthermore, personality changes such as impulsivity, severe irritability, emotional instability, alcohol and drug misuse and neurodegenerative disorders were also included in the spectrum of TBI-caused psychiatric disorders. SOF face higher rates of neurobehavioral symptoms, including PTSD symptoms and distress, when compared with conventional forces. At the present time, the key interventional approach for military TBIs is still focused on managing neuropsychiatric symptoms rather than full recovery. This is mainly achieved by pharmaceutical therapies, that primarily target neurotransmitter systems, physical therapy and rehabilitation treatments.

Keywords: traumatic brain injury (TBI), mental health, psychiatry

PP 16

INVESTIGATING THE DIGITAL SKILLS OF MEDICAL AND NURSING STAFF IN GREEK MILITARY HOSPITALS: A CROSS-SECTIONAL STUDY

BrigGEN Karvouniari Alexandra, RN, MSc, PhD(c)¹, COL Katsika Alexandra², Melas Christos, Asst. Prof.³

¹Director of Nursing Services, 251 Air Force General Hospital, Athens, Greece, ²CU, ER, Peri-operative Nursing Supervisor, 251 Air Force General Hospital, Athens, Greece, ³Assistant Professor, Hellenic Mediterranean University, Nursing Department, Heraklion, Crete

Aim: The purpose of this study is to investigate digital skill levels of doctors and nurses in Greek military hospitals as well as the factors related to these levels.

Material - Method: A cross-sectional study design was conducted. A structured questionnaire of digital skills based on Digital Competence Indicators from the European Digital Competence Framework (DIGCOMP) was used. The sample consisted of 657 healthcare professionals, 455 registered nurses and 202 doctors, who work in four military hospitals in Greece (251 Air Force General Hospital, 401 General Military Hospital of Athens, Naval Hospital of Athens and 424 General Army Training Hospital). The values of the five factors (Information skills, Communication skills, Content creation software skills, Problem solving skills, Security skills) are calculated on a scale from 0 to 100. Values approaching 0 correspond, proportionally, to a more negative scaling of the studied variable, while those approaching 100 to a more positive scaling. Statistical analysis was performed with SPSS 26.0, while p values <0.05 were considered as statistically significant.

Results: The mean score of Information skills, Communication skills, Content creation software skills, Problem solving skills, Security skills was calculated 54.2, 52.4, 50.5, 52.4, and 54.6 respectively. Cronbach's alpha values for the (5) factors were all (α) >0.8. Younger ages are associated with higher values on all subscales ($p < 0.001$). Computer literate participants recorded higher scores on the subscales Content creation software skills ($p = 0.003$) and Problem-solving skills ($p = 0.031$).

Conclusions: The present data confirm that younger healthcare professionals as well as those who have received computer training, have superior digital skills. According to this study, healthcare professionals require continuous training to be up to date, in digital skills and information systems.

Key Words: Computer skills; Digital skills; healthcare professionals; DIGCOMP framework; instrument

PP 17

VITAMIN D AND SKIN, AN INTERLINKED RELATIONSHIP

Charitidis Nektarios, Vassis Polytimos, Maggina Athina, Spiliotakopoulou Ioanna Zoi

¹Naval Hospital of Athens, Athens, ²National and Kapodistrian University of Athens, Athens

Background: This literature review documents the effect of vitamin D on skin health, as well as on the prevention and treatment of skin diseases. Vitamin D contributes to the reduction of skin inflammations, has an antioxidant effect, fights acne, as well as combats dry skin. Its intake is a determining factor for healthy skin taking into consideration the various skin diseases that result from its deficiency.

Methods: The articles and research papers reviewed came from a systematic search of relevant terms in the international literature and the internet (PubMed website).

Results: From the study of the collected data, the beneficial effect of vitamin D on skin health is confirmed. It promotes skin healing and strengthens the immune system, contributing to the reduction of inflammatory factors. This physiological effect also makes the skin look healthy, as less inflammatory skin disorders result in a reduced incidence of skin diseases.

Conclusions: Vitamin D mediates a wide range of tissue-specific actions, ranging from cell growth, cell differentiation and apoptosis to barrier maintenance and immune functions. In fact, it neutralizes oxidizing radicals and in this way, their oxidizing effects on the skin are reduced, which results in healthier skin. Concurrently, autoimmune skin diseases, which are multifactorial inflammatory skin diseases, are characterized, by an increased sensitivity to oxidative stress. Therefore, its employment contributes directly to their mitigation. Vitamin D exerts a pleiotropic effect on the skin and may be an important treatment option for psoriasis and atopic dermatitis.

Key words: Vitamin D, skin health, autoimmune skin diseases



PP 18

TRANEXAMIC ACID IN EMERGENCY CARE

Papamichalis Theodoros, Captain, MD, MSc, Doumana Aikaterini, Captain, MD, MSc, Kaznesis Sotirios, Lieutenant, MD, MSc, Boronilo Agapi, Lieutenant, MD, Mostratou Eleni, Colonel, MD, PhD

251 Air Force General Hospital, Athens, Greece

Hemorrhage is related to very high mortality rates both in military and civilian practice. In fact, a significant number of patients die before or in the first hour after they reach hospital. Tranexamic acid (TXA) contributes to bleeding control in multiple ways, such as inhibiting the fibrinolytic process by hindering the plasminogen conversion to plasmin.

The administration of tranexamic acid (TXA) has been researched in multiple bleeding conditions. In trauma and post-partum hemorrhage, which are the best-researched conditions, TXA has been found to be beneficial when administered within the first three hours of hemorrhage onset. In traumatic brain injury, research data is not sufficient for safe conclusions. However, TXA may be beneficial if extracranial bleeding is present. In other major non-traumatic cases of hemorrhage, such as hemorrhagic stroke and gastrointestinal bleeding, TXA administration may offer no benefit. Topical use of TXA in conditions, such as upper and lower respiratory tract bleeding, may be effective as research data has proved.

Viscoelastography is a rising point – of – care technique which contributes to defining the phenotype of fibrinolysis of each patient. This is the reason why it can be of great importance in determining which patients may improve after the use of TXA and which may not.

In conclusion, TXA has been applied in numerous hemorrhagic conditions. Although it has already been incorporated into emergency care practice in many hospital settings and it is a valuable agent in early control of hemorrhage in combat casualties, further research is needed in order to achieve the best possible outcome for patients' health.

Keywords: hemorrhage, tranexamic acid, bleeding control, emergency

PP 19

BREAST OUTPATIENT CLINIC AT THE POST-COVID ERA: INSIGHTS FROM A 12-MONTH STUDY

Mitrousias Apostolos¹, Kalles Vasileios², Papadimitropoulos Konstantinos¹

¹251 Hellenic Air Force General Hospital, Athens, ²Athens Naval Hospital

Introduction: The CoViD-19 pandemic has catalyzed transformative changes in healthcare delivery, particularly in outpatient settings like breast clinics. This abstract presents findings from a 12-month study conducted from January to December 2023, examining the operational dynamics and patient outcomes in the Breast Outpatient Clinic of the 2nd Surgical Department at 251 Hellenic Air Force General Hospital in the post-CoViD era.

Methods: Data from a breast outpatient clinic spanning January to December 2023 were analyzed, including total visits, number of military personnel, appointment reasons (annual check-ups, symptoms, prescriptions), epidemiological data, cases requiring surgery or further investigation (e.g., core biopsy, additional imaging). Quantitative and qualitative analyses were employed to elucidate trends, challenges, and innovations in the post-CoViD era.

Results: During the study period, the clinic conducted 421 visits, experiencing 113 cancellations. The military personnel appertained to the 12,1% of the appointments. Appointment reasons varied, with 47% presenting for prescription renewals, 44% for annual check-ups and 9% with symptoms. Nineteen cases necessitated surgical intervention. Further management strategies, including core biopsies and additional imaging, were implemented in 16,6% of cases.

Conclusion: This study underscores the resilience and adaptability of breast outpatient clinics in the post-CoViD era. Insights gleaned from the study emphasize the importance of patient-centered care, efficient resource allocation, and technology integration in the post-CoViD era. By embracing these principles, breast outpatient clinics can navigate the complexities of the post-CoViD landscape, ensuring continued excellence in patient care. This presentation offers valuable insights into the evolving dynamics of breast outpatient clinic care post-CoViD, with implications for enhancing healthcare delivery and patient outcomes in this new era.

Keywords: Breast Outpatient Clinic, Post-pandemic era, Screening, Military personnel

THE USE OF DUPILUMAB IN ATOPIC DERMATITIS AND THE EFFECT ON T2 HIGH CO-MORBIDITIES

Psarros F.¹, Papapostolou N.², Aggelides X.², Pasali M.², Chliva C.², Makris M.²

¹Allergy Clinic, Navy Hospital, Athens, Greece, ²Allergy Unit "D.Kalogeromitros", 2nd Department of Dermatology and Venereology, Medical School, National and Kapodistrian University of Athens, University General Hospital "Attikon", Athens, Greece

Introduction: Atopic Dermatitis (AD) is a chronic inflammatory skin disorder affecting more than 230 million people worldwide. AD's morbidity burden designates the disease as the skin disorder with the highest impact on quality of life in terms of disability adjusted years, while patients receive high dose of systemic steroids or other immunosuppressive drugs to control the disease. Dupilumab, by inhibiting the action of T2 interleukins 4 and 13 (IL4, IL13), is approved for the treatment of atopic dermatitis, asthma, CRSwNP, and eosinophilic esophagitis.

Aim: The aim of the present study was to evaluate 1) the response to treatment in patients with severe AD treated with dupilumab and 2) the effect on co-existing T2 comorbidities.

Methods: Patients with severe uncontrolled AD who were granted approval to start treatment with dupilumab 300mg/2w after an initial dose of 600mg, during the period 03/2020 - 06/2022 were included in the study. All patients were assessed at baseline (w0) and at 2, 4, 16, 24, and 52 weeks by a/SCORAD, b/EASI c/IGA, d/ DLQI, e/peripheral blood eosinophils (w0, w16, w52). Patients with comorbid asthma and/or allergic rhinitis (AR) were additionally assessed by a/Fractional Exhaled Nitric Oxide (FeNO), b /Asthma Control Test (ACT w0, w16, w52) and c/FEV1 (w0, w16, w52). In addition, systemic steroid and cyclosporine intake, nasal symptoms, and the effect of accidental exposure to known food allergens, in patients with food allergy (FA), were assessed throughout the study.

Results: A total of 8 patients (co-existing diseases: 5/8 asthma GINA step 1-4, 3/8 AR, 3/8 FA) were included in the study (75% male, mean age 33,5 years, range 15-59 years). Adult-onset disease was reported in 3/8 patients. At baseline patients presented with severe uncontrolled disease and affected quality of life (mean scores: SCORAD 58,8±17.6, EASI 28,3 ± 12.1, IGA 3, DLQI :27 ± 3). 83% of patients had received >3 regimens of systemic steroids in the past year, while 62% had received cyclosporine for up to one year. The mean value of eosinophils was 507.5±195 cells/µl. Two weeks after the first administration of Dupilumab, patients showed an impressive response with a reduction of SCORAD (w2:31, w4:19, w16:17, w52:16), EASI w2:9.2, w4:5.4, w16:5, w52:3.2), IGA (w2:2, w4:1, w16:1, w52:1) and DLQI (w2:7, w4:3, w16:3, w52:3). In addition, lung function improved in all asthma patients (FEV1 baseline: 3.16L, w16: 3.46L and w52: 3.48L), which was already controlled by w16 (ACT:25/25). Furthermore, a drop in FeNO levels was observed (w2:29±2,9ppb, w4:24±2,3ppb, w16:17±2,7ppb, w52:16±4,9ppb). A flare up was observed in one patient 24 weeks after Dupilumab initiation and at week 32 he discontinued treatment. One additional patient discontinued treatment at week 12 due to the development of acute disseminated demyelinating encephalitis following and influenza like infection. None of the remaining patients experienced adverse events throughout the study.

Conclusion: Blocking the pleiotropic action of IL4 and IL13 targets the entire spectrum of type 2 inflammation, with dupilumab producing impressive disease control results in patients with AD, with the subset of patients with co-existing asthma showing additional benefit. Close and continuous monitoring regarding the efficacy and safety of treatment with biologics is substantial.

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**REVOLOUSIONIZING BATTLEFIELD HEALTHCARE: EXPLORING THE ROLE OF
TELEMEDICINE IN MILITARY MEDICINE**

Velissariou Ilias, Second Lieutenant

RN, 401 General Military Hospital Of Athens, Athens, Greece

In the modern era of warfare, advancements in telemedicine have opened new frontiers in the delivery of healthcare on the battlefield. This review explores the evolving role of telemedicine in military medicine, highlighting its potential to revolutionize healthcare delivery in challenging operational environments.

Telemedicine offers remote access to medical expertise, enabling timely diagnosis, triage, and treatment of battlefield injuries. Furthermore, it facilitates real-time consultation between frontline medics and specialist clinicians, enhancing decision-making and optimizing patient outcomes.

It is a necessary undertaking to integrate telemedicine technologies into military healthcare systems, facing challenges such as connectivity limitations and data security concerns. Additionally, it examines the impact of telemedicine on medical logistics, preventive medicine strategies, and scientific research in the military context. By leveraging telemedicine, military medical professionals can enhance readiness, resilience, and effectiveness in providing life-saving care to wounded personnel.

Finally, this review underscores the imperative for continued research, innovation, and collaboration to maximize the potential of telemedicine in advancing military medicine on the battlefield.

Key-words: telemedicine, battlefield, military medicine

TREATMENT OF BURN PATIENTS IN MASS CASUALTIES

Melissaridou Nikoleta-Maria¹, Deskoulidi Nena², Pikoulis Emmanouil³

¹General Hospital of Nikaia, Athens, ²Kat Hospital, Athens, ³Attikon University Hospital, Athens

The aim of this presentation is to investigate the ways of dealing with burns in mass disasters and the existence or not of guidelines for dealing with such disasters. Patients with extensive burns require specialized care by specially trained doctors. When they receive the required medical care, their health improves and their life expectancy increases. Patients with burns have to deal with their long-term consequences, which often lead to stigmatization by society as not only their functionality is affected, but also their quality of life and mental health. Although mass disasters involving burn patients are rare, when they do occur they have a large number of victims and test the limits of the health system. For the above reasons, the existence of global guidelines is deemed necessary, in order to deal with the victims of mass incidents in the optimal way and to have as few losses of human life as possible. Past mass disasters have shaped the creation of some guidelines. In any hospital there must be an organized triage, proper evaluation and categorization of burn patients as well as the initial treatment before they go to a specialized center. There should also be mobile disaster burn teams that provide specialist knowledge. The World Health Organization, due to their effectiveness, has proposed the increase of these mobile units. However, few countries have adopted it.

Keywords: burns, mass casualties, treatment of burn patients

PP 24

CORRELATION OF SERUM IGE LEVEL WITH SEVERITY OF ATOPIC DERMATITIS IN ADULTS - RETROSPECTIVE ANALYSIS OF 71 PATIENTS

Kostić K., Sekulović L., Dinić M.

Department of Dermatology and Venereology, Military Medical Academy, Belgrade, Serbia

Introduction: Atopic dermatitis (AD) is a chronic, recurrent, inflammatory skin disease. Elevated serum total IgE is not a narrowly specific marker for AD, but it does occur in about 80% of patients. Some studies have shown a positive correlation between elevated serum IgE values and the severity of the clinical disease activity of AD.

Materials and methods: Retrospective analysis of 71 adult patients diagnosed with AD who were hospitalized in the Clinic for dermatovenereology, Military Medical Academy in the period 2010-2021. We used SCORAD test to determinate severity of disease. Based on the age when the disease manifested, we divided the patients into 2 groups - patients with AD before and after 18 years of age.

Results: 71 patients with AD were analyzed, 23 (32%) patients were women and 48 (68%) were men. The age range of patients ranged from 18 to 82 years (median 30). The manifestation of the disease before the age of 18 had 33 (47%) patients, while 38 (53%) patients had the manifestation of the disease after the age of 18. Elevated values (> 100 IU / ml) were detected in 61 (86%) patients. No statistically significant correlation was found between the total serum IgE value and the SCORAD test value. The analysis of SCORAD test values in 2 groups of patients formed on the basis of age when AD was manifested did not find a statistically significant difference.. Analysis of 2 groups of patients depending on the year of onset of AD showed that patients with the appearance of AD in children had statistically significantly higher IgE values compared to patients with the manifestation of AD in adults ($p < 0.05$).

Conclusion: In our study of 71 adult patients with AD, no statistically significant correlation was found between total serum IgE and severity of AD.

NATURAL DISASTERS AND INFECTIOUS DISEASES: THE CASCADE EFFECT

Disasters have many forms, which they can globally be classified in three main groups: hydro-meteorological, geo-morphological and geophysical disasters. Moreover, the nature and the effects of these disasters are becoming increasingly complex, due to factors as climate change, globalization, population movement and economic interconnectivity. These interdependencies contribute to the cascade effect which has been defined as the dynamics present in disasters, in which the impact of a physical event, generates a sequence of events in human sub-systems that result in physical, social and economic disruption. Natural disasters may lead to infectious disease outbreaks when they result in substantial population displacement and exacerbate synergic risk factors. We reviewed reported infectious disease outbreaks in Europe through the last two decades, following two types of natural disasters, earthquakes and flooding. Aim of this review is to identify the drivers of the infectious diseases outbreaks after natural disasters and the understanding of the links and causal pathways between them, so as to strengthen preparedness planning and measures to mitigate and control outbreaks. Risk assessment is essential in post-disaster situations and the rapid implementation of control measures should be given high priority, especially in the absence of pre-disaster surveillance data. The establishment of protocols for health information management and national surveillance systems have to be strengthened. In disaster situations, provision of adequate quantities of safe water, education on hygiene and hand washing are very important for infectious diseases prevention.

Keywords: communicable diseases, earthquakes, floods, cascade effect, prevention, surveillance

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ASSOCIATION OF MEAN PLATELET VOLUME WITH GLYCOSYLATED HEMOGLOBIN

Stamouli Marilena¹, Nikolakopoulou Angeliki², Sfiniadaki Evdokia³, Michopoulou Athina¹, Vamvaka Maria¹, Xifaras Michail-Aristotelis¹, Gati Stamatoula¹, Theodorakos Ioannis¹, Sfiniadakis Ioannis⁴, Stergiou Christos¹

¹Laboratory of Biopathology, Athens Naval Hospital, ²Laboratory of Biopathology, Crete Naval Hospital, ³General Maternal Hospital of Athens "Elena Venizelou", ⁴Director at Piraeus Naval Hospital

Introduction: The aim of this study was to investigate the association of Mean Platelet Volume (MPV) with Glycosylated Hemoglobin (**HbA1c**) in patients with diabetes mellitus and in healthy controls.

Materials and Methods: The study included 743 diabetic patients (62,1% male and 37,9% female) with at least one year duration of diabetes, aged 18 years or older, who were referred to the outpatient clinic of our hospital for routine health check-up from 2015-2024. Pregnancy, malignancy and COVID-19 infection were factors for exclusion from the study. The control group included 350 healthy individuals (45,7 % male and 54,3% female), aged 18 to 40 years. HbA1c was measured by High Performance Liquid Chromatography at the Menarini Adams HA 8160 analyzer. MPV was measured at the Sysmex XS 1000i Hematology analyzer. Statistical analysis was performed by statistical package MINITAB 17.

Results: HbA1c results in the patient group ranged from 6.5% to 15,1% and MPV ranged from 7,6 to 14,5 fL (normal range 9,0-13,0). There was a significant correlation ($r=0.65$, $p\text{-value}=0,005$) between the two parameters. HbA1c results in the control group ranged from 4.5% to 6,0% and MPV ranged from 8,8 to 13,5. There was no significant correlation between the two parameters in the control group. Statistically significant differences between males and females were not observed in either of the two groups.

Discussion: Our findings suggest that there is a significant association between poor glycemic control and increased platelet activity in patients with type 2 diabetes mellitus. Elevated MPV is significantly associated with higher HbA1c levels. Such an association was not observed at the control group. Studies have shown that increased MPV is one of the risk factors for myocardial infarction. By MPV measurement we can identify the diabetic patients with high risk of cardiovascular complications.

Key words: mean platelet volume, glycosylated hemoglobin, diabetes mellitus

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INTEGRATING HEALTH PROMOTION INTO EUROPEAN OFFICER EDUCATION AND LEADERSHIP TRAINING FOR ENHANCED PREVENTIVE MEDICINE

1st Year Medicine Cadet Kalogeropoulos Gerasimos, 1st Year Medicine Cadet Karagianni Sanna – Stayroula, 1st Year Medicine Cadet Karagianni Katerina, 1st Year Medicine Cadet Gitani Aliko - Myrto

Hellenic Military Academy of Combat Support Officers Thessaloniki, Greece

Aim: This study aims to determine and illustrate the different fields of the European Basic Officer Education and Leadership Training, in which health promotion aspects can be established and drastically extended. It also aims to clarify how preventive medicine is enhanced via the implementation of these health promotion aspects.

Material-Method: Our research is based on a systematic literature review. In particular, we drew upon information from relevant articles found, after searching four electronic databases (BASE, Google Scholar, Science Direct, and PubMed). Those articles should be evaluated for their validity and their relation to the topic.

Results: There are numerous ways to implement health promotion aspects in the European Basic Officer Education and leadership training and different fields in which can take place. It seems that some are already established, while others are overlooked. Through the research, we ascertained both the importance of that implementation concerning preventive medicine and the crucial need for its extension since also the outbreak of COVID-19.

Conclusions: The European Basic Officer Education and leadership training focus on health promotion reflects the European Union's commitment to promoting the physical and mental well-being of its executives. By providing officers and personnel with the knowledge and skills to manage their health effectively, we can ensure that they can carry out their duties to the best of their abilities, while ultimately contributing to the enhancement of preventive medicine.

Keywords: health promotion, preventive medicine, officer education, leadership training

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PERCUTANEOUS DILATATION TRACHEOSTOMY IN INTENSIVE CARE UNIT - ANESTHESIOLOGICAL APPROACH

Krstić-Lečić Ivana, Anesthesiologist

Military Medical Academy, Belgrade, Serbia

Tracheostomy is a surgical airway management procedure which consists of making an incision on the anterior aspect of the neck and opening a direct airway. Percutaneous tracheostomy or percutaneous dilatation tracheostomy (PDT) is the placement of tracheostomy tube without direct surgical visualisation of the trachea.

PDT refers to the method of performing tracheostomy using the modified Seldinger and dilatation technique. This is considered a minimally invasive, bedside procedure that may be easily performed in the Intensive care unit with continuous monitoring of the patient's vital signs. Most common indication of percutaneous dilatation tracheostomy is need for prolonged ventilation. Bronchoscopy and ultrasound have been found to be useful procedural adjuncts, especially in presence of unfavorable anatomy.

Indications for percutaneous dilatation tracheostomy: Percutaneous dilatation tracheostomy in Intensive Care Unit is classically indicated to facilitate weaning in the difficult to wean patients, to aid in tracheobronchial toiletting, to protect airways in patient at risk of aspiration in anticipated prolonged ventilatory stay, and to minimize sedation requirement.

In case of difficult to intubate patient emergency, cricothyrotomy is considered as the procedure of choice.

Key word: tracheostomy, critical care, intensive care unit, prolonged ventilation

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INVESTIGATING COLONY COLLAPSE DISORDER IN HONEYBEES

Makri Evangelia¹, Professor Arsenos Georgios (Supervisor)²

¹3rd year Veterinary Medicine student, AUPH, Hellenic Military Academy of Combat Support Officers, Greece, ²Laboratory of Animal Husbandry, School of Veterinary Medicine, Aristotle University

Honeybees are of great importance as pollinators and for their contribution to hive products. Since 1961, the proportion of pollinator-dependent crops increased globally by 300%, but bee populations by only 45%. However, the latter was not the case for Europe and the United States of America (U.S.A.) where further decline was observed. This literature review focuses on research studies regarding the primary causes of colony losses, with Colony Collapse Disorder (CCD) being the main topic of interest. CCD was initially observed in 2006 in the U.S.A., with reported colony losses of about 50-90% in one week. The phenomenon was soon documented in many European countries. The main characteristic of CCD is the rapid disappearance of female workers without any trace in the colonies, which are left with an active queen, food, healthy developing larval and pupal. Although the cause is unknown, research suggests that multiple factors are involved. Some of the suggested hypotheses include the impact of neonicotinoids, migratory beekeeping practices, climate change, environmental pollution, natural habitat loss, and bees' inadequate nutrition. These factors lead to stressful conditions in bees, which combined with the low genetic diversity in colonies contribute to immunosuppression. As a result, bees are highly vulnerable to parasites and pathogens, particularly the *Varroa destructor* mite. Additionally, evidence from recent studies suggests that high-frequency electromagnetic waves disrupt vital functions of bees. In conclusion, the role of honeybee losses on the economy and the ecosystem implies that further research is needed to deeply understand the reasons for these losses and to develop preventive measures for CCD-like phenomena.

Keywords: CCD, stress, immunosuppression

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CLINICAL AND SEROLOGICAL OUTCOMES OF PATIENTS WITH GIANT CELL ARTERITIS TREATED WITH SUBCUTANEOUS TOCILIZUMAB AS STEROID SPARING AGENT. A SINGLE-CENTER EXPERIENCE

CAPT Katsifis Gkikas MD, PhD, RhMSUS, HN, Kottas Konstantinos MD, Faltaka Amalia MD

Rheumatology Clinic, Naval Hospital of Athens, Greece

Background: Giant cell arteritis (GCA) is a common form of systemic vasculitis. The current mainstay of GCA management is glucocorticoid (GC) therapy. Recently, tocilizumab (TCZ) has been proven to be effective in the management of CGA. TCZ use as steroid sparing agent needs further investigation at every day clinical practice.

Objective: We aimed to investigate the efficacy and steroid-sparing effect of subcutaneous (sc) TCZ in a cohort of GCA patients at the Rheumatology Clinic, Naval Hospital of Athens, Greece.

Methods: We retrospectively collected data from patients who were treated with sc TCZ 162mg/w, as second line therapy in those refractory to standard immunosuppressive treatment (methotrexate). Complete response after 12 months of therapy was defined as a clinical and serological remission [C-reactive protein (CRP)<7mg/L and erythrocyte sedimentation rate (ESR)<30mm/h].

Results: The study included 26 GCA patients (mean age:72±1.8, females:93%, mean follow-up from GCA diagnosis:38.9±4.4 months). 85% of the patients experienced complete response. After 12 months of therapy, 100% of patients were on low maintenance doses of oral prednisone (≤7.5 mg/day). A significant reduction of inflammatory parameters was noted [mean baseline CRP:17±1.5mg/l, mean CRP after 12 months of therapy:3±0.2; mean baseline ESR:45.2±5.8mm/h, mean ESR after 12 months:7.6±3.8. Three patients developed lower respiratory lung infection, mild herpes zoster infection and cystitis respectively, all of which were treated on an outpatient basis.

Conclusion: Subcutaneous tocilizumab induced sustained remission of GCA, had acceptable safety and was associated with a reduction in the prednisone dose over 12 months in patients refractory to standard immunosuppressive therapy.

Keywords: Giant Cell Arteritis – Tocilizumab

QUALITY OF LIFE AND GENDER EQUALITY IN GREEK ARMED FORCES**Lieutenant Colonel (RN) Athanasiadou Foteini¹, (Dr) Malliarou M.²***¹Interdisciplinary Center of Mental Health, 414 Military Hospital of Special Diseases, ²University of Thessalia*

Introduction: The military setting has been linked with men and traditional male traits such as toughness, endurance, and bodily strength. Studying how attitudes towards equality standards impact quality of life is crucial for understanding the necessary societal changes to enhance quality of life.

Objective: This research explore the disparities in how males and females perceive and encounter equality and quality of life in the military. Due to the absence of pertinent research, it is necessary to examine whether women and men in all military services have truly achieved equal opportunities for professional advancement and recognition in relation to their quality of life in the military family .

Method: This study examines gender equality in the Greek Armed Forces using a quantitative cross-sectional design to analyze relationships among different characteristics. Data will be collected using a questionnaire that includes three sections: demographic information, the Gender-Equitable Men Scale (GEM), and the Health Survey (SF-36). The GEM evaluates gender norms through two sub-scales: Equitable and Inequitable. The SF-36 has 36 components that assess physical and mental health, as well as flexibility in daily living. Strict translation and commitment to ethical norms guarantee the dependability of the instruments.

Results: Initial results are expected to shed light on gender-related interactions in the Armed Forces. Correlation analysis using Pearson's r coefficient will reveal connections between gender attitudes and life quality. T-tests will analyze score differences based on gender in GEM and SF-36 scales. The anticipated outcomes could highlight gender-specific obstacles, enhancing comprehension of equality issues in the military setting.

Conclusions: The study aims to contribute to the discussion on gender equality by examining if formal acknowledgment corresponds with actual opportunities in the Greek Armed Forces. Gender-equitable views positively correlate with improved quality of life, suggesting that gender equality can promote overall well-being. The gained insights may lead to actions aimed at creating a fairer professional and personal environment for military members.

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PATIENT WITH FEVER, RECURRENT THROMBOSIS, MYELOYDYSPLASIA, POLYCHONDritis AND ALVEOLITIS: A VEXAS SYNDROME CASE REPORT

Kottas Konstantinos MD¹, Faltaka Amalia MD¹, Katsifis Gkikas OF-4, MD, PhD¹

¹Naval Hospital of Athens, Rheumatology Clinic, Athens, Greece

Introduction: VEXAS (vacuoles, E1 enzyme, X-linked, autoinflammatory, somatic) syndrome is an adult-onset autoinflammatory disease characterized by disruption of the ubiquitylation process due to a somatic mutation in the X-linked UBA1 gene, which normally codes for the UBA1 enzyme, in the precursor myeloid cells. First described in 2020, it manifests with both inflammatory and hematologic symptoms. Treatment options include high-dose corticosteroids, azathioprine, azacytidine, cyclophosphamide and targeted agents like anti-TNF α , anti-IL6 and JAK inhibitors. We present the case of a male VEXAS patient with multisystemic manifestations and life-threatening alveolitis following a lower respiratory track infection.

Case presentation: A 71-year-old man with a 10-year history of VEXAS (fever, lymphadenopathy, erythema nodosum, pulmonary infiltrates, polychondritis, recurrent thrombosis, uveitis, arthritis, cytopenias and myelodysplasia) presented with fever (39oC), confusion, productive cough, anemia (Htc=29.1%), high CRP=321.50mg/L and right lower lobe consolidation on chest computed tomography (CT). Broad-spectrum antibiotics were administered leading to apyrexia. In the following days, the patient became febrile again (38,4oC) with new nodular pulmonary infiltrates on the right lobe. Despite the modification of the antibiotics administrated, the patient manifested hemoptysis with worsening anemia (Htc=20%) and new ground-glass opacities bilaterally. As per hemorrhagic alveolitis, the patient received two IV pulses of 125mg cyclophosphamide (5 days apart), along with IV methylprednisolone 40mg q6h and hemoptysis ceased, fever subsided, CRP level decreased (=15mg/L), the chest CT scan showed improvement and the patient was dismissed after 38 days of hospitalization. Upon follow-up, due to a flare with arthritis, uveitis and vasculitic rash of the lower extremities, tocilizumab was started, leading to clinical improvement.

Discussion: VEXAS is a newly described, autoinflammatory disease that manifests with a variety of systematic symptoms. As such, distinction between infections and flares of the disease can be challenging for the clinical doctor.

Keywords: VEXAS syndrome, myelodysplastic syndrome, autoinflammation.



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ENHANCING FIRST RESPONDER CAPABILITIES AGAINST CBRN-E INCIDENTS: THE TEAMUP'S INTEGRATED APPROACH

Valouma Katerina, Ouzounglou Eleftherios, Karagiannidis Lazaros, Amditis Angelos

Institute of Communication and Computer (ICCS), Greece

In response to global threats and incidents targeting civilians, countries worldwide are investing in strengthening their capabilities to address Chemical, Biological, Radiological, Nuclear, and Explosive (CBRN-E) events. In Europe, the teams responding first often lack specific training and adequate equipment to effectively handle such hazards, hindering their ability to provide timely assistance to victims, triage them and follow proper decontamination processes. At the same time, resources are limited, exercises and training are siloed per organization, lacking proven procedures multi-disciplinary collaboration and knowledge sharing, and digital tools. TeamUP aims to address these shortcomings by analyzing and specifying how First Responders (FRs), both experts and non-experts in CBRN-E, can meet the operational requirements of CBRN-E incidents.

The project will develop, integrate, test, deploy, and validate innovative technologies for Detection-Identification-Monitoring (DIM) of hazardous materials, FRs health status monitoring, and tools for triage and (mass) decontamination, while also offering joint operations capabilities.

Utilizing artificial intelligence and a network of heterogeneous sensors, TeamUP aims to enhance situation awareness, guiding FRs in implementing proper mitigation actions, such as zones and cordoning, evacuation posts, Personal Protective Equipment (PPE) usage, decontamination processes, and more. The collaboration between FRs and AI will establish a justifiable sense of security for both responders and affected citizens.

TeamUP unites various stakeholders, including training centers, FRs, experts, and non-experts, identifying and addresses their specific needs. The project promotes cross-sectoral and cross-border collaboration, facilitating knowledge sharing through continuous evaluation in a comprehensive program of Tabletop and Small-Scale Exercises, as well as Small-Scale and Full-Scale Trials. This approach aims to generate advanced knowledge on capabilities, technology performance, and operating procedures, ultimately enhancing the overall preparedness and response to CBRN-E incidents.

Keywords: CBRN-E, Response, Preparedness, Crisis management, First Responders

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MENTAL RESILIENCE AS A PROTECTIVE FACTOR IN MANIFESTATION OF PSYCHIATRIC SYMPTOMS DURING THE MILITARY SERVICE

Aranitou Aikaterini, Dimitrakopoulos Stefanos, Gourtzelidis Paul, Mougialkos Theodoros

414 Military Hospital in Athens – Psychiatric Clinic

Introduction: Archived research of medical records by military psychiatrists at 414 Military Hospital in Athens demonstrates that over the last 10 years, soldiers who served as recruits in Greek Special Army Forces (GSAF) while being exposed to highly complex and stressful military challenges, responded with remarkable resiliency in psychiatric disorders, contrary to recruit soldiers who received the Basic Military Service (BMS). The present preliminary study examined whether resilience and hardiness (a characteristic of resilience) would act as protective factors against the manifestation of psychopathological symptoms among the recruited soldiers in 2022 - 2023.

Method: A between-subjects analytical study was conducted on recruiting soldiers every 2 months. More specifically, the present study was administered during Advanced Recruit Training (ART) from June 2022 to March 2023, through two convenience samples of 341 soldiers of GSAF and 331 soldiers of BMS (all recruited). Data was collected by 3 valid and reliable questionnaires: the **Connor-Davidson Resilience Scale** (CD - RISC), the **Symptom Checklist-90-R** (SCL - 90-R), a measure of symptoms of psychopathology, and the **Dispositional Resilience Scale – II Military Version (DRS-II 24 items)**. Soldiers were asked to optionally give a small sample of hair from the scalp (approximately 3 mm), from which biological materials were extracted for further laboratory research. **Cortisol and endocannabinoids (AEA% - anandamide and 2-AG% - 2-Arachidonoylglycerol)** were extracted from 5 - 10 mg whole hair by methanol incubation and isopropanol washes, followed by a column-switching strategy for online solid phase extraction (SPE).

Results: The results of the present preliminary study were consistent with those of archived research, suggesting that the Greek Special Army Forces (GASF) recruits have greater mental resilience to the manifestation of psychopathological symptoms and signs. Also, there is a strong correlation between mental resilience with hardiness. Furthermore, there is a strong negative correlation between resilience/hardiness with symptoms of psychopathology. Regarding biomarkers, it was concluded that soldiers in the Special Army Forces have lower levels of cortisol - the main stress hormone - despite being exposed to highly complex and stressful military challenges. Additionally, they show increased levels of endocannabinoids (AEA% & 2-AG%) compared to soldiers with Basic Military Service.

Conclusions: The above results implicate higher resilience, hardiness, and biological tolerance to psychopathology symptoms for Greek Special Army Forces Recruits. This study is preliminary and further studies should endeavor to replicate our findings in different samples, including women, and middle-aged adults, to better understand the factors or neural pathways that lead to human resiliency to psychiatric symptoms and signs.

Keywords: resilience; hardiness; psychiatric symptoms; cortisol; endocannabinoid system.

THE IMPACT OF THE COVID-19 PANDEMIC ON THE USE OF SOS TELEPHONE LINES

Second Lieutenant (RN) Gogoula Vasiliki¹, Second Lieutenant (RN) Stergianni Christina¹, Second Lieutenant (RN) Kitsopoulou Theodora¹, Lieutenant Colonel (RN) Athanasiadou Foteini²

¹School of Medical Corps Practice, 401 General Military Hospital of Athens, ²Interdisciplinary Center of Mental Health, 414 Military Hospital of Special Diseases, Athens

Introduction: This paper investigates the impact of the COVID-19 pandemic on the psychosocial development of recent years through the frequency of use of SOS telephone lines. The use of telephone lines used by the public in crisis management situations, such as domestic violence, also reflects a possible increase or decrease in the need to manage such situations in general. It is therefore investigated how a global and multi-level crisis affected people's psyche, as seen through the search for support and help using SOS telephone lines.

Objective: The purpose of this study is to examine, through the relevant literature, and present impact of the COVID-19 pandemic on the frequency of SOS telephone lines' use. **MATERIAL/MEANS:** Websites of telephone lines used by civilians and military men and women in Greece and Google Scholar articles.

Method: Review of the data obtained through the relevant articles and websites of the telephone lines to extract relevant results.

Results: An increase in calls to all SOS telephone lines was observed as well as the need to create a new hotline to deal exclusively with issues arising from the COVID-19 pandemic.

Conclusions: Through the increased use of telephone support lines it is possible to establish the influence that the pandemic had on the psychosocial profile of the time, leading both civilians and military men and women to call for help from the relevant agencies.

Key-Words: telephone lines, COVID-19 pandemic, crisis management

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MILITARY MEDICINE IN GRECO-ITALIAN WAR

**Nikolaidis Sofoklis (4th Year Cadet), Lelovitis Lampros (3rd Year Cadet),
Chreppa Spyridoula (1st Year Cadet)**

¹Hellenic Military Academy of Combat Support Officers, ²Aristotle University of Thessaloniki, Medicine Department

On the occasion of the memories of the Military Doctor - Surgeon Michael I. Gialas from his service as Commander of the 13b Mountain Surgery in the Greco-Italian War, the aim of this study is to record and deepen understanding basic facts about the application of Medicine during World War II. Specifically, it focuses on the most common diseases, the therapeutic methods, the surgical techniques, the available medication, but also the medical evacuation capabilities of the time.

The research was conducted through bibliographical review and includes data and information collected from books, autobiographical reports, lectures and articles.

During the war, the most important health losses were frostbite and amputations, but also injuries of all kinds such as chest, abdomen and skull trauma. The treatment of the above included a variety of surgical methods and pharmaceutical options of the time, as well as transfusions. Under this regime, various fields of medicine experienced significant growth due to their necessity in the daily care of the injured, such as anesthesiology, blood and plasma transfusion, the use of penicillin and the development of several vaccines.

Therefore, it is clear, that the medical sector owes a big part of its development to the vortex of war which, although pernicious, obliges humanity, to constantly evolve in order to defend safety and health. After all, some of the landmark discoveries in the history of medicine were made in the context of the needs of war.

Key words: World War II Medicine, 13b Mountain surgery – Greco-Italian War, War Surgery, Casualty Evacuation, Pharmaceutical treatment

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PRINCIPLES OF THE WAR TRAUMA PRE-HOSPITAL MANAGEMENT AND TREATMENT TRANSLATED IN TO CIVILIAN TRAUMA CARE TO OPTIMIZE OUTCOMES IN SEVERE TRAUMA AND ACUTE SURGERY: INTEGRATION OF THE MOBILE ULTRASOUND USING 5G INTERNET NETWORKS IN AN AMBULANCE CAR

**Mammas S. Constantinos MD Msc PhD Consultant Surgeon^{1,2},
Mamma S. Adamantia MEng, PhD (BEng)¹, Saoulides Demetrios
(Director Anesthesiologist)², Ferekides Eleutherios MD PhD ENT
Surgeon (Professor)³**

¹Program of Excellence 2014-16 of the Hellenic Ministry of Education, Research, Innovation,
²General Hospital of Kalymnos, ³National and Kapodistrian University of Athens

Aim: Development and evaluation of impact of the 5G internet networks (5G IN) upon mobile ultrasound (m u/s) in an ambulance car (AC) integrated in the pre-hospital setting (PS), on tele-diagnosis, treatment planning and on the Golden Hour Principle (GHP) in Civilian Trauma (CTR).

Methods: (PS) organization and care upon (5G IN) high bandwidths (10 GB/s) mobile telecommunication (mTC) experimented by simulation by seven (n=7) professional rescuers, trauma surgeons and information technology specialists to perform (PS) (m u/s) (Mindray DP-18 DUDS) in an (AC) to evaluate its feasibility, reliability and clinical usability to optimize outcomes in (CTR) upon four (n1=4) clinical cases each time, in Volos city on 27.07.2022, in the War Museum of Athens on 24.06.2023 and on 26.06.2023. A bidirectional audio-medical image real time data sharing between (AC) and Emergency Department (ED) or Trauma Center (TC) established, combining both 5G-radio and -core network parts. Besides technical performance evaluations, a medical assessment of the shared (m u/s) image quality and transmission latency evaluated.

Results: **1.** Measured be-directional (m u/s) images data sharing between (AC) and (ED or TC) showed high feasibility upon (5G IN) under specific, technological and ergonomic conditions in (CTR). (5G IN) test revealed an average end-to-end round trip latency of 10 milliseconds (<1 ms), **2.** This depends on (m u/s) quality, on its digital connection to (mTC) and on their inherent phenomena (LOS, Scattering, Frequency Hopping), **3.** The presence of a physician in the rescue team to perform life saving interventions (i.e iv canulation, intubation, tracheostomy, thoracic intubation, hypothermia prevention, hemorrhage control by hemorrhage dressings and tourniquets, REBOA in ED, etc.), is more essential,

Conclusion: Integration of the (m u/s) in an (AC) with the (PS) upon (5G IN) is under conditions reliable for real-time tele-diagnosis and remote collaborative treatment planning to support the (GHP) in (CTR).

Key words: Emergency Surgery, Trauma Surgery, 5G internet networks, Prehospital Mobile Ultrasound, Golden Hour.

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A MEDAL AWARD FOR COVID 19 PANDEMIC

Giannoglou Dimitrios Lt Colonel, Cardiology Consultant

424 General Military Training Hospital, Cardiology Department Thessaloniki, Greece

Covid 19 caused a challenging pandemic that affected the entire world.

For the past 5 years a significant number of health professionals have been involved with the treatment of covid 19 patients, either directly or indirectly. Along with the scientists and hospital crew, hundreds of thousands of military personnel and policemen worked effectively with self sacrifice and devotion for the general public. Among them, a significant number died on duty.

In order to honor all those who worked in different fields to fight against the covid 19 pandemic, a special medal should be awarded. As the whole humanity was affected, there should be a common, multinational award, that symbolizes the unity of the world against the common enemy-a world disease.

The idea of a multinational award is not new, as it has already been adopted for the WWI Interallied Victory medal, awarded among the Entente powers after the First World War, and the UN Korean War medal. What is new is that this new award can be awarded to every single country, regardless of the political, religious, historical and social differences between various nations.

The suggested design consists of the mythical hero Hercules killing the Lernean Hydra in the obverse and the phrase "For services during the pandemic" in every country's language, in the reverse. The ribbon will have 5 equal stripes (Blue, red, green, yellow, black) symbolizing the 5 continents and a metallic clasp "COVID 19" will be adjusted on it.

The award will be hopefully awarded under the auspices of the United Nations and the World Health Organization and will be adopted by every government in the world. It will be a symbol of unity and collaboration of all nations.

Keywords: medal, covid 19, pandemic



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GENERAL INFORMATION

DATES

The Congress will be held from Tuesday, April 16, 2024 until Friday, April 19, 2024

CONGRESS VENUE

Zappeion Megaron
Vasilissis Olgas Avenue, 105 57 Athens Greece.

OFFICIAL LANGUAGE

The official languages of the Congress will be English and French. Simultaneous translation will be provided to English and French respectively. A translation kit may be collected from the Technical Secretariat Desk outside the Conference Hall.

SPEAKERS' PRESENTATIONS

Speakers are strongly advised to provide their presentation at the Technical Secretariat Desk 1 hour before their presentation time. If a speaker wishes to use a personal computer, it will be feasible but the Technical Secretariat should be notified ahead. An HDMI cable will be available at the Congress Hall podium. In case a speaker brings a Mac computer, it is necessary to provide along a personal adaptor and a personal charger.

CONGRESS MATERIAL

Congress material may be collected at the Secretariat Desk situated in the Congress Exhibition Area. Participants are kindly requested to wear the name badge when entering the Congress Venue and to access any offered services. Access to the Congress Hall shall not be possible without a name badge.

E-POSTERS

Electronic Posters will be displayed on plasma screens situated in the Exhibition Area of the Congress.

CERTIFICATE OF ATTENDANCE

Certificates will be provided after the end of the Congress. Specific Guidelines will be sent to each delegate's email for online Certificate issuing.

CONGRESS SECRETARIAT



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27, Michalakopoulou Ave- 11528 Athens Greece
Tel. +30 210 7210001, email: info@congressworld.gr