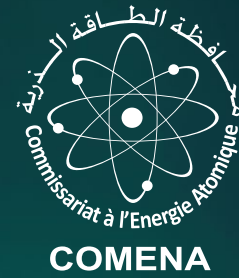
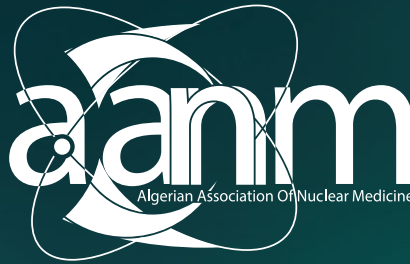


Under the High Patronage of the Minister of Health
Under the High Patronage of the Minister of Energy and Renewable Energies

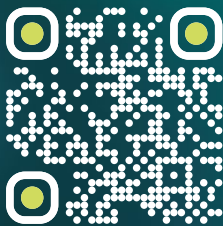


AICONM25

ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE

NOVEMBER 14 -15, 2025
CRNA - ALGIERS

PROGRAM



[HTTPS://AAMN.DZ/AICONM25/](https://aamn.dz/aiconm25/)



Algerian Association of Nuclear Medicine
Atomic Energy Commission
co-organize



ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE **AICONM25 | COMENA / CRNA | November 14-15, 2025**

Dear colleagues and friends,

It is with great pride and immense enthusiasm that I welcome you to the 2nd Algiers International Conference on Nuclear Medicine, AICONM25. After the resounding success of our first event last year, AICONM24, we are eager to build on that momentum to offer you an even more remarkable experience. The overwhelmingly positive feedback we received after the first conference confirmed its essential role in advancing nuclear medicine in our region.



This year, in a move that highlights our association's commitment to creating synergy between the public and private sectors, I am delighted to announce that the President of AICONM25 will be Professor Amimour, Head of the Nuclear Medicine Department at the Mohamed Lamine Debaghine University Hospital in Bab El Oued.

Furthermore, we are honored to have the contribution of the distinguished researcher, Professor Akram Al-Ibraheem, as the President of the scientific committee. His expertise has been crucial in developing and enriching our program, which is designed to be both comprehensive and at the forefront of innovation.

We extend our sincere gratitude to all of our esteemed guest speakers for accepting our invitation. Your presence and willingness to share your invaluable knowledge and insights are what make this conference a truly exceptional and enriching experience.

Our goal is to bring together the brightest minds from all fields of the healthcare community.

We look forward to welcoming you to AICONM25 and continuing to build a strong and collaborative future for nuclear medicine together.

Sincerely,

Dr Ymad Eddine El Moustapha Ghedbane
President of the Algerian Association of Nuclear Medicine (AANM)



ALGERIAN ASSOCIATION OF NUCLEAR MEDICINE

ATOMIC ENERGY COMMISSION

CO-ORGANIZE



ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE AICONM25 | COMENA /CRNA | November 14-15, 2025

Word from the Atomic Energy Commissioner

On behalf of the Atomic Energy Commission (COMENA), I wish to express my support for this initiative and share with you our strategic and technological vision for the sustainable and independent development of nuclear medicine in Algeria.

Molecular imaging represents a quiet yet major advancement in understanding the mechanisms of the human body at the cellular and metabolic level. Thanks to advanced techniques like PET/CT and PET/MRI, we are now able to observe biological processes in real time, evaluate the effectiveness of treatments, and better tailor these treatments to each patient's physiology.

Among the major advances in recent years, theranostics stands out as an innovative approach that combines diagnosis and treatment using a single radiopharmaceutical vector. This novel strategy paves the way for truly personalized medicine, enabling precise diagnosis, effectively targeted treatments, and real-time monitoring of therapeutic outcomes. COMENA is fully committed to this perspective. Its teams are actively working to strengthen research, production, and quality control of radiopharmaceuticals used in these cutting-edge methods, thereby laying the foundation for national autonomy in the field of theranostics.

In light of scientific and technological advancements, COMENA has structured its program around four main pillars. Firstly, it aims to strengthen human and technical skills by training a new generation of specialists in molecular imaging and radiopharmacy. Secondly, the program seeks to develop a modern and secure national infrastructure dedicated to the production and control of radiopharmaceuticals. Thirdly, it emphasizes promoting translational research, ensuring an effective link between research laboratories and clinical services. Finally, it is committed to guaranteeing safety, quality, and traceability throughout the entire medical nuclear chain.

Through its specialized nuclear research centers, COMENA has developed a proven national expertise in the production, quality control, and distribution of radiopharmaceuticals for nuclear medicine. Nevertheless, this expertise constitutes only a step within a broader vision. Indeed, our efforts are currently focused on establishing effective national structures aimed at ensuring reliable, traceable, and sustainable production of radioisotopes.

COMENA also places paramount importance on human resource development and works in concert with the Ministry of Health, the Ministry of Higher Education and Scientific Research, and numerous hospital institutions to ensure national coherence of actions. COMENA will remain a strategic partner to support this transformation, uniting the efforts of researchers, engineers, physicians, and partner institutions.

Together, we will continue building an effective, reliable, and sustainable Algerian nuclear medicine, dedicated to health, scientific research, and national progress.



Algerian Association of Nuclear Medicine

Atomic Energy Commission

co-organize



ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE

AICONM25 | COMENA / CRNA | November 14-15, 2025

ORGANIZING COMMITTEE

ABDI Mohamed El Hafedh
AZZOUZ Djamil
BENABDERRAHMANE Romeissa
BETTACHE Kenza
BRAHMI Safa
HEMMOUS Messaoud
NAILI Qais
OTMANE Radja
TAHMI Djawida
TAIEB ERRAHMANI Djamel
TALBI Abdelkrim
ZOUAOUI Soumia



AICONM25 Chair
Assia Amimour
Algeria

SCIENTIFIC COMMITTEE

ALEM-BEZOUBIRI Asma
BOUROUBA Mohamed
BOUSSAHA Reda
CHELBANI Samir
FASSOULI Ali
GHEZAL Abdenasser
KHELASSI -TOUTAOUI Nadia
KHELIFA Amel
MAHERZI Madjdi
MARIE Pierre Yves
MEZAGUER-LEKOUAGHET Meriem
RAHABI Skander



Scientific Committee President
Akram Al-Ibraheem
Jordan



COMENA



Algerian Association of Nuclear Medicine

In Collaboration with

Atomic Energy Commission & International Atomic Energy Agency

ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE

AICONM25 | COMENA / CRNA | November 14-15, 2025

FRIDAY 14th NOV 2025

PROGRAM (1st DAY)

08h00 RECEPTION & REGISTRATION

09h00 Opening Remarks : AICONM25 Chair *Pr AMIMOUR*

Workshop 1: Nuclear Cardiology

09h05 What does the cardiologist expect from nuclear medicine in the era of coroCT? *Pr BOUZID*

09h25 Discordance Scintigraphy-Coronary Angiography: Possible Explanations *Pr MARIE*

09h45 DISCUSSION

10h00 Clinical cases *Dr GUERNOU*

10h30 COFFEE BREAK

Workshop 2: PSMA PET exam

11h00 68Ga/ 18F PSMA - PET Exam : Interpretation & pitfalls *Dr DJELBANI*

11h45 Sponsored Symposium (Clinique Athena)

12h00 LUNCH

Neuroendocrine Tumors

14h30 NETs in ALGERIA *Dr BELABDI*

14h50 NETs Theranostics *Pr AL-IBRAHEEM*

Iodine Refractory Thyroid Cancer

15h10 Algerian Experience *Dr OTMANE*

15h30 Thyroid Cancer *Pr GIOVANELLA*

15h50 Potential theranostic applications in iodine-refractory thyroid cancer *Pr LOPCI*

16h10 DISCUSSION (NETs / Thyroid Cancer)

16h30 COFFEE BREAK

Prostate Cancer

17h00 Prostate Cancer in ALGERIA *Pr CHETTIBI*

17h20 News & Recommendation of 177Lu-PSMA

Pr AL-IBRAHEEM

17h40 Tandem 225Ac 177Lu in Prostate Cancer *Pr SATHEKGE*

18h00 DISCUSSION

FAP

18h15 FAPI : Practicals Aspects *Pr AL-IBRAHEEM*

18h35 FAP-based radiotheranostics (FRT) for the treatment of diverse adenocarcinomas and sarcoma *Pr BAUM*

18h50 GENERAL DISCUSSION

19h00 DINER

SPEAKERS



Assia Amimour
Algeria



Mohammed Amine Bouzid
Algeria



Pierre-Yves Marie
France



Mohamed Guernou
France



Soraya Djelbani
France



Djihed Belabdi
Algeria



Raja Otmane
Algeria



Akram Al-Ibraheem
Jordan



Egesta Lopci
Italy



Luca Giovanella
Switzerland



Khireddine Chettibi
Algeria



Mike Sathekge
South Africa



Richard P. Baum
Germany

<http://aamn.dz/aiconm25>

PROGRAM (2nd DAY)

Hodgkin Lymphoma

08h30 Hodgkin Lymphoma in ALGERIA *Pr AKHROUF*
 08h45 Response assessment in pediatric HL: DS or metabolic tumor volume? *Pr LOPCI*

Economic Aspects of Theranostics

09h00 Nouvelles perspectives du théranostique en oncologie (pays à revenu intermédiaire) *Pr GIAMMARILE*
 09h20 Evolving Role of Theranostics in Medicine and its Impact on Healthcare Economics *Pr ABASS*
 09h40 How does theranostics be more effective ? *Pr SHI*

10h00 Official Opening Ceremony

10h15 The Role of the IAEA in Capacity Building and Sustainable Development of Nuclear Medicine in Algeria and the African Region *Pr ESTRADA-LOBATO*

10h35 How to implement the theranostics : IRAQI Experience *Dr KHALAF*
 10h55 How to increase cost-efficacy of RLT : Predictive biomarkers *Pr FLAMEN*

11h10 DISCUSSION
 11h15 COFFEE BREAK

Theranostics, Current Trends

11h45 Rhenium 188 in Skin Cancer Therapy *Pr CASTELLUCI*
 12h05 177Lu/225Ac DOTATATE RLT in Advanced Refractory Meningiomas *Pr ASSADI*
 12h25 RLT 225Ac / 213Bi DOTA substance in Glioblastoma *Dr DADGAR*
 12h45 DISCUSSION

13h00 LUNCH

Radiation Protection in the Era of Theranostics

14h30 Théranostique : Défis éthiques et cadre juridique émergent *Mr CHENNOUFI*
 14h45 Essor du théranostic en Algérie : Apport stratégique du COMENA *Ms KHELASSI*
 15h00 DISCUSSION

Equipment & Technology

15h10 Revolutionary Impact of PET-CT-MRI on Research and Day to Day Practice of Medicine *Pr ABASS*
 15h30 Quantitative imaging biomarkers in the era of precision medicine *Pr ZAIDI*
 15h50 DISCUSSION
 16h00 COFFEE BREAK
 16h30 ORAL COMMUNICATIONS
 17h30 CLOSING CEREMONY

SPEAKERS



Egesta Lopci
Italy



Sabrina Akhrouf
Algeria



Abass Alavi
USA



Francesco Giammarile
IAEA



Hongcheng Shi
China



Enrique Estrada-Lobato
IAEA



Patrick Flamen
Belgium



Aysar Khalaf
Iraq



Paolo Castellucci
Italy



Majid Assadi
Iran



Habibollah Dadgar
Iran



Fatah Chennoufi
Algeria



Nadia Khelassi-Toutaoui
Algeria



Zaidi Habib
Switzerland

<http://aamn.dz/aiconm25>

KEDERA Award for the best Oral Communication
Best Poster Award
SEBAI Award for the Best Resident Oral Communication



Pr. Assia Amimour

ALGERIA

AICONM 25 Chair

Head of the Nuclear Medicine Department at Bab el Oued University Hospital



Pr. Alavi Abass

USA

Pioneer in Molecular Imaging

Dr. Abass Alavi is an Iranian-American *physician-scientist* and a highly influential figure in the field of *molecular imaging, particularly known for his pioneering work in **Positron Emission Tomography (PET)*.

Key Contributions

**Development of FDG-PET:* Alavi was a key member of the team at the University of Pennsylvania that, in the 1970s, devised the concept of labeling

deoxyglucose with the positron-emitting isotope fluorine-18, leading to the creation of *18-Fluorodeoxyglucose (FDG)*.

* *First Human Administration:* He was notably the first to administer 18-FDG to a human subject (in 1976) and perform tomographic images of the brain using the technique.

* *Clinical Applications:* He has pioneered the clinical use of 18-FDG-PET for diagnosing and assessing numerous conditions, including:

- * *Cancer* (oncology)
- * *Neurological disorders* (e.g., dementia and seizures)
- * *Cardiovascular disease*
- * *Infection and inflammation*

Career and Recognition

* *Current Position:* He is a Professor of Radiology and Director of Research Education at the University of Pennsylvania Perelman School of Medicine.

* *Early Career:* Born in Tabriz, Iran, he received his Medical Doctorate (M.D.) from Tehran University of Medical Sciences in 1964 before moving to the U.S. and specializing in nuclear medicine.

* *Publications:* Over a career spanning five decades, he has published over 2,300 peer-reviewed articles and has been cited over 60,000 times, placing his work in the top percentile of scientists.

* *Major Awards:* He is the recipient of numerous high distinctions in nuclear medicine, including the *Georg Charles de Hevesy Nuclear Pioneer Award* and the *Benedict Cassen Prize* of the Society of Nuclear Medicine.

In essence, Dr. Abass Alavi is recognized as one of the major architects of modern molecular imaging, whose work with *18-FDG-PET* has fundamentally revolutionized the way many diseases are diagnosed and studied globally.



Pr. Richard Baum

GERMANY

Nuclear Medicine Physician at Curanosticum Wiesbaden in Germany, President of the ICPO Academy for Theranostics, and Chairman of the Scientific Advisory Board of the ICPO Foundation, is a pioneer and globally renowned expert in Radiomolecular Precision Oncology including treatment of neuroendocrine tumors and prostate cancer. His groundbreaking research and clinical experience have been instrumental in developing new treatment approaches for cancer patients. With nearly 40 years of

invaluable experience, Prof. Baum's expertise and insights enrich the Board,

driving forward the mission of the ICPO Foundation with unparalleled depth and understanding. Over the past years, he and his team have treated over 2000 NET (Neuroendocrine Tumor) patients worldwide with more than 7000 Peptide Receptor Radionuclide Therapy (PRRT) applications. He was honored with many prizes, such as the Mallinckrodt Award in 1990, the GLORINET Award in 2014 (NET Patients Support Group in Germany), and the Saul Hertz Award in 2019 by the SNMMI (one of the most prestigious lifetime awards in the field of nuclear medicine therapy). Richard P. Baum holds several guest and associate professorships across the continents, such as at Michigan State University in the U.S. and at the Peking University Cancer Hospital in China.



Pr. Akram Al-Ibraheem

JORDAN

Prof. Dr. Akram Al-Ibraheem is the Chairman of Nuclear Medicine and PET/CT at Jordan's King Hussein Cancer Center (KHCC). He is President of the Jordanian Society of Nuclear Medicine, President of the Asia Oceania Federation of Nuclear Medicine and Biology (AOFNMB), and served as Founding President of the Arab Society of Nuclear Medicine (2014–2019). Prof. Al-Ibraheem sits on the executive board of the World Federation of Nuclear Medicine and Biology and is an adjunct professor at Jordan University. Since 2012, he has been an expert for the International Atomic Energy Agency. He established the nuclear medicine residency at KHCC and introduced cutting-edge theranostics services, including molecular PET/CT, PRRT, and PSMA-ligand therapies. A Royal College of Physicians London Fellow since 2023, Prof. Al-Ibraheem has over 150 publications in international journals and serves as associate editor for NMMI and AOJNMB while actively contributing to global nuclear medicine forums.



Pr. Enrique Estrada Lobato

IAEA

Senior Professor of Nuclear Medicine and Nuclear Oncology at the National Autonomous University of Mexico.
Head of the Nuclear Medicine Department at the Nacional Cancer Institute in Mexico (2000 – 2014).
Past-President of the Latin American Association of Societies of Biology and Nuclear Medicine.
Past-President of the World Federation of Nuclear Medicine and Biology.
Nuclear Medicine Physician and Programme Officer of the Division of Human Health at the Department of Nuclear Sciences and Applications of the International Atomic Energy Agency (2014-).



Pr. Shi Hongcheng

CHINA

Hongcheng Shi served as a director & professor in the department of nuclear medicine, Zhongshan Hospital, Fudan University. He is also served as a director in the institute of nuclear medicine, Fudan University and served as a vice director in the medical imaging institute in Shanghai.

He is a President-elect of Chinese Society of Nuclear Medicine.

In 1994 he received Master degree of medical imaging. And in 2001 he got Doctor degree of medical imaging and nuclear medicine. As a visiting scholar, he studied in Emory University Hospital GA, USA for one year from Oct,2004 to Nov.2005. He has been engaged in medical imaging diagnostic work and radionuclide therapy work for many years. He is good at hybrid imaging diagnostic work, such as SPECT/CT and PET/CT. As a editor in chief, he published "Nuclear Cardiology", "Procedure guideline and clinical application of hybrid SPECT/diagnostic CT" and "PET/CT clinical Evidence-based practice and procedure guidance" as well as "Total-body

PET/CT: It's Prospective Clinical Applications" in Chinese. As the first author or corresponding author, he has published more than 200 papers in peer-reviewed journals.

Dr.Shi got ACNM Honorary Fellow in 2017, and he got SNMMI Presidential Distinguished Served Award in 2020. He also got many awards in China, such as "Top 10 Best Doctors" in Shanghai and so on. Dr. Shi is the first user of the total body PET/CT in the world. His team have examined more than 43 thousand patients in his department in the past 6 year and accumulated a lot of experience in using total body PET/CT. His team have published more than 50 paper including 2 experts consensus in peer-reviewed journals, such as in JNM and EJNM et al. to introduce the role of total body PET in clinical works. As a editor, he published the book entitled "Total body PET/CT Prospective clinical application" as the first book in the world in this field. He was invited to give lectures more 20 times in SNMMI annual meeting, EANM annual meeting, Latin American annual meeting as well as in UC Davis University Hospital, Virginia University Hospital and so on.



Department of Nuclear Medicine, Gruppo Ospedaliero Moncucco SA, Lugano (Switzerland)

Email: luca.giovannella@moncucco.ch
Phone Fax

Educational activities

1991 Degree in Medicine (cum laude), Medical School, University of Pavia (Italy)

1995 Post-graduation Degree - Nuclear Medicine (cum laude), Institute of Radiological Sciences, University of Milan (Italy)

2000 Post-graduation Degree - Experimental Endocrinology (cum laude), Institute of Endocrinology, University of Milan (Italy)

2003 Master in Direction and Management of Medical Departments, I.Re.F. Regione Lombardia, Milan (Italy)

Professional positions

2024- Chairman, Department of Nuclear Medicine, Gruppo Ospedaliero Moncucco SA, Lugano (Switzerland)

2021- Scientific Advisor, Interdisciplinary Thyroid Centre, University Hospital of Zurich, Zurich (Switzerland)

2022- Scientific Advisor MEDISYN® Switzerland, Luzern (Switzerland)

2022- Clinical consultant and scientific advisor, Centro Medico Promater, Verbania (Italy)

20032023- Chairman, Clinic for Nuclear Medicine and Molecular Imaging, Imaging Institute of Southern Switzerland, Ente Ospedaliero Cantonale, Bellinzona (Switzerland)

20052023- Scientific Advisor (Hormones and Tumor Markers), Department of Laboratory Medicine, Ente Ospedaliero Cantonale, Bellinzona (Switzerland)

20142023- Founder and Clinical Director, Competence Centre "Diagnosis and Therapy of Thyroid Diseases", Ente Ospedaliero Cantonale, Bellinzona (Switzerland)

20182021- Medical and Scientific Director, Imaging Institute of Southern Switzerland, Ente Ospedaliero Cantonale, Bellinzona (Switzerland)

19982002- Head of Thyroid Unit and Laboratory of Endocrinology, University Hospital and Macchi Foundation, Varese (Italy)

19942002- Consultant, Department of Nuclear Medicine, University Hospital and Macchi Foundation, Varese (Italy)

19911993- Junior Staff Physician, Nuclear Medicine, Institute of Radiological Sciences - University of Milan (Italy)

Didactic activities

2015- Titular professor, Medical School, University of Zürich, Zürich (Switzerland)

20202023- Director, FMH Postgraduation Programme in Nuclear Medicine (category A), Bellinzona

20032019- Director, FMH Postgraduation Programme in Nuclear Medicine (category B), Bellinzona

20082015- Privat Dozent (PD), Medical School, University of Zürich, Zürich (Switzerland)

19962014- Invited Professor, Medical School, University of Insubria-Varese (Italy)

20032014- Invited Professor, Technical Medical School of Canton Tessin, Locarno (Switzerland)

Scientific activities

Publications / Abstracts and Proceedings of Congress

543 original papers on peer-reviewed international journals (Web of Science 09.03.2025)

Pubmed Giovannella L AND (Switzerland OR Italy) - Search Results - PubMed (nih.gov)

Metrics H-index 57 (WoS) 69 (Google Scholar); Citazioni 16296 (WoS) 9528 (Google Scholar) (09.03.2025)

Coordinator or invited lecturer at more than 300 national and international congresses

Presenter of more than 300 scientific communications at national and international congresses

Books and books' chapters

Editor-Integrated Diagnostics and Theranostics of Thyroid Diseases, Springer Nature Switzerland 2023

Editor-Evidence-based Positron Emission Tomography, Springer Nature Switzerland 2020

Editor-Nuclear Medicine Therapy, Springer Nature Switzerland 2019

Editor-Atlas of Thyroid and Neuroendocrine Tumor Markers, Springer

International Publishing AG 2018

Editor-Atlas of Head and Neck Endocrine Disorders, Springer International Publishing Switzerland 2016

Author-Thyroglobulin and Tg Antibodies in M. Luster et al. (eds.), The Thyroid and Its Diseases. Springer International Publishing AG, part of Springer Nature 2019 655

Author-Radionuclide Imaging of Medullary Thyroid Carcinoma in K. Pacak, D. Taïeb (eds.), Diagnostic and Therapeutic Nuclear Medicine for Neuroendocrine Tumors, Contemporary Endocrinology, Springer International Publishing Switzerland 2017.

Encyclopedia (sections)

Author-Nuclear medicine therapy of thyroid cancer postthyroidectomy in Alberto Signore (Ed), Encyclopedia of Nuclear Medicine and Molecular Imaging. vol. 4, pp. 4255-, Oxford Elsevier 2022.

Author-Thyroid Imaging in Ilpo Huhtaniemi and Luciano Martini, (Eds.), Encyclopedia of Endocrine Diseases, Second Edition, vol. 4, pp. 545-564. Oxford Academic Press 2019.

Metrics

H-index 41 (Web of Science) 56 (Google Scholar)

Citations 7323 (Web of Science) 11754 (Google Scholar)

Scientific Societies and Boards

2021- Chairman, Thyroid Committee, European Association of Nuclear Medicine (EANM)

2014- Chairman, Thyroid Working Group, Swiss Society of Nuclear Medicine (SGNM/SSMN)

2020- Deputy Chairman, International Consortium on Radioiodine Refractory Thyroid Cancer

20142020- Deputy Chairman, Thyroid Committee, European Association of Nuclear Medicine (EANM)

20102018- Member of the Executive Board, Swiss Society of Nuclear Medicine (SGNM/SSMN)

2010 President, Annual Congress of the Swiss Society of Nuclear Medicine (SGNM/SSMN)

Awards and recognitions

2018 Honorary Citizenship "Benemerenzia Città di Verbania", Verbania (Italy) for scientific merits

2017 Honorary Membership-Therapy Center of Excellence, Society of Nuclear Medicine and Molecular Imaging for scientific merits

2015 American College of Rheumatology - Best Image in Rheumatology Prize

2013 Prize Advisory Board of Research EOC - Best Scientific Communication - 3rd Research Day of Southern Switzerland Lugano

-2001 Outstanding Paper Award 2001 - Journal of Nuclear Medicine, Society of Nuclear Medicine

-1996 Associazione Italiana di Medicina Nucleare: Premio Felice Perussia (Best Post-graduation Master Thesis 1995)

Memberships

- Swiss Society of Nuclear Medicine (SGNM/SSMN)

- European Society of Nuclear Medicine (EANM)

- Federatio Medicorum Helveticorum (FMH)

-Ordine dei Medici del Canton Ticino (Switzerland)

-Ordine dei Medici Verbano-Cusio-Ossola (Italy)

Editorial activities

Associate Editor

European Journal of Endocrinology

Member of the Editorial Board

European Journal of Nuclear Medicine and Molecular Imaging

American Journal of Nuclear Medicine and Molecular Imaging

Clinical and Translational Imaging

Annals of Thyroid Research

Nuclear Medicine Oncology

Thyroid

Endocrine

Regular Reviewer

Journal of Nuclear Medicine

European Journal of Nuclear Medicine and Molecular Imaging

European Journal of Endocrinology

Thyroid

Clinical Endocrinology

Endocrine

Clinical Chemistry and Laboratory Medicine

Hormone Metabolic Research

Nuklearmedizin

Annals of Nuclear Medicine

26.10.2025 Prof. Dr. med. Luca Giovannella



Pr. Egesta Lopci
ITALY

Egesta Lopci is a Nuclear Medicine physician working in Milano, directly involved in clinical and research activities. She has graduated in Medicine and Surgery at the University of Bologna, Italy, and at the same University she has finished her specialization in Nuclear Medicine and completed her PhD in Specialized Medical Sciences. Since 2017 she has received the Italian National Qualification as Professor of Diagnostic Imaging and Radiotherapy.

Egesta Lopci is an active member of different international organizations and research groups, including EANM, AIMN, ESR FIL, AIEOP UEMS/EBNM CME Accreditation Committee and EORTC, where she serves as Vice Chair of the Imaging Group. Over the years she has won several grants and 10 awards and recognitions for the activity.

She is author of 205 scientific papers, 9 monographic editions, 6 books and 15 chapters, and more than 250 congress contributions as author/co author, speaker, moderator and coordinator.



Pr. Pierre-Yves Marie
FRANCE

Agé de 65 ans, diplômé en Médecine Nucléaire et plus anciennement en Cardiologie, je suis Professeur des Universités – Praticien Hospitalier depuis 1997 au CHRU de Nancy et à l'Université de Lorraine (France).

Actuel chef de service de Médecine Nucléaire de ce CHRU, mon domaine d'activité médicale et de recherche est celui de l'imagerie en Médecine Nucléaire et IRM, en particulier dans le domaine cardio-vasculaire, mais aussi dans les pathologies osseuses et infectieuses et plus récemment, en thérapie interne vectorisée.

En pratique nous travaillons surtout les modalités optimales de réalisation des images et d'extraction des résultats, en particulier avec les appareils TEP numériques (endocardites, myocardites, amylose cardiaque) et les caméras à semi-conducteurs (protocoles à très faibles doses (< 5 mSv) en ventriculographie isotopique et perfusion myocardique, correction d'atténuation et débruitage par deep learning).



Pr. Majid Assadi
IRAN

Professor & Head, Department of Nuclear Medicine, Molecular Imaging and Theranostics Director, Translational Molecular Imaging Research Center, Bushehr University of Medical Sciences

After earning his specialty, he pursued in Advanced Imaging Training at both Stanford University and Harvard Medical School–Massachusetts General Hospital. Then, he completed a Master's in Advanced Oncology at Ulm University, Germany, coupled with in-depth evidence-based oncology training

through the European School of Oncology.

He has authored over 370 peer-reviewed publications, contributed to six book chapters, and edited two books. Recognized for excellence in clinical research, he has received numerous national and international awards, including top honors from the American Society of Neuroradiology, the American Society of Rhinology, and the World Federation of Nuclear Medicine and Biology (WFNMB). He has served on the editorial boards of several leading journals and has been a chair, moderator, and keynote speaker at numerous conferences, such as SNMMI and EANM. Additionally, he has held positions on the Board of Directors for SNMMI CIC and the IAP of ASNC for several years. He is renowned for his work in molecular imaging and theranostics.



Pr. Habib Zaidi
SWITZERLAND

Habib Zaidi is Chief physicist and head of the PET Instrumentation & Neuroimaging Laboratory at Geneva University Hospital and full Professor at the medical school of the University of Geneva.

He is also a Professor at the University of Groningen (Netherlands), the University of Southern Denmark (Denmark) and Óbuda University (Hungary).

His research is supported by the Swiss National Foundation, the European Commission, private foundations and industry (Total 11M+ US\$) and centres on hybrid imaging instrumentation (PET/CT and PET/MRI), computational modelling and radiation dosimetry and deep learning.

He was guest editor for 14 special issues of peer-reviewed journals and serves as founding Editor-in-Chief (scientific) of the British Journal of Radiology (BJR) Open, Deputy Editor for Medical Physics and is on the editorial board of leading journals in medical physics and medical imaging.

He has been elevated to the grade of fellow of the IEEE, AIMBE, AAPM, IOMP, AAIA and the BIR.

His academic accomplishments in the area of quantitative PET imaging have been well recognized by his peers since he is a recipient of many awards and distinctions among which the prestigious (100'000\$) 2010 Kuwait Prize of Applied Sciences (known as the Middle Eastern Nobel Prize).

Prof. Zaidi has been an invited speaker of over 245 keynote lectures and talks at an International level, has authored over 435+ peer-reviewed articles (h-index=79, >23'200+ citations) in prominent journals and is the editor of four textbooks.



Mr. Fatah Chennoufi

ALGERIA

authority, and member of the Board of the ANSSN.

More than twenty years at the Atomic Energy Commission (COMENA) in charge of nuclear regulations, in the fields of nuclear safety, nuclear security, safeguards, radiation protection and regulatory authorizations for nuclear activities, including nuclear medicine.

Following the transfer of COMENA's regulatory activities to the new nuclear authority, National Nuclear Safety and Security Authority – ANSSN, appointed since October 2022 as Director of Nuclear Regulations at the new

As part of the international control of radioactive source transfer, designated as Algeria Point of Contact for facilitating the Import and/or Export of Radioactive Sources in accordance with the Code of Conduct on the Safety and Security of Radioactive Sources and its Guidance of the International Atomic Energy Agency - IAEA. Domaine d'activité : Réglementation Nucléaire



Dr. Soraya Djelbani

FRANCE

Moléculaire et Fonctionnelle (IMF-CCN.COM). In this role, she coordinates multidisciplinary oncology meetings and manages targeted internal radiation therapy for prostate cancer at Hôpital Avicenne (APHP). Previously, she served as a Nuclear Medicine Practitioner and medical manager at the Hôpital Européen de Paris - GVM Care & Research (2017-2024-) and held both Hospital Practitioner and Chief Resident positions at the Hôpital Avicenne (AP-HP).

Dr. Soraya Djelbani is a specialist Nuclear Medicine Consultant with extensive expertise in advanced diagnostic and therapeutic oncological imaging, including PET-CT (FDG, F-CH, F-DOPA, F-PSMA) and SPECT-CT modalities. Her clinical focus covers oncological, inflammatory, and cardiovascular diseases.

Professional Experience

Dr. Djelbani currently practices Nuclear Medicine at the Groupe Imagerie

Education and Research

Dr. Djelbani earned her Doctor of Medicine (MD) and a Specialized Studies Diploma (DES) in Biophysics and Nuclear Medicine from Université Paris Saclay, Paris XI (2014). Her academic credentials also include a Master II in Biomedical Imaging Sciences and Medical Physics (2015-2016-) and a Complementary Specialized Studies Diploma (DESC) in Oncological Imaging

She has contributed to peer-reviewed publications on topics such as the evaluation of malignant transformation risk in Neurofibromatosis Type-1 using 18F-FDG PET/CT and 18F-FDG PET/CT findings in systemic mastocytosis. Dr. Djelbani is an active member of research groups, including one focused on artificial intelligence in nuclear medicine, and is a member of the European Association of Nuclear Medicine (EANM).



Dr. Mohamed Guernou

FRANCE

conducteur CZT dès 2009 avec plusieurs publications sur le sujet et notamment la validation de l'utilisation du Thallium avec cette nouvelle technologie d'imagerie.

Spécialisé en imagerie cardio-vasculaire (CZT, Tep-tdm, Spect-CT) et Imagerie de l'inflammation.

2009. Réalisation d'une thèse sur l'imagerie tomographique pulmonaire et d'un mémoire sur l'acquisition post stress précoce en scintigraphie myocardique en 2007.

Intégration en 2009 du groupe MIN (médecine et Imagerie Nucléaire) du Centre Cardiologique du Nord (CCN Paris/Saint Denis).

Parmi les pionniers dans l'utilisation clinique des cameras cardiaques à semi

Membre de la société française de Médecine Nucléaire, membre de la société française de lymphologie.

Membre de la Team endocardite du CCN avec notamment de le développement de protocoles dédiés tep endocardites.

Plusieurs publications notamment sur le thème de la cardiologie.

Co-auteur du livre "Cardiologie nucléaire" de la collection Les Précis de chez Lavoisier Médecine.

Participation à l'étude de phase 3 Aurora sur le Flurpiridaz.

Enseignant pendant plusieurs années aux journées "ateliers des internes et chefs de cliniques de l'ANAEMEN.

Participation à l'obtention en 2011 de la première autorisation d'encadrement des internes de l'aphp au sein d'un centre privé.



Mme Nadia Khelassi
ALGERIA

• President of medical physics Pedagogic Committee at the Algerian Institute of Nuclear Engineering (IAGN/COMENA)

Expert Researcher in medical physics
Occupied Positions

- Head of Medical Physics department (DPM/DPR/CRNA/COMENA)
- Head of Radiological Physics Division (DPR/CRNA/COMENA)
- Director of International cooperation (COMENA)
- National Liaison Officer (NLO) with IAEA
- AFRA National coordinator (AFRA NC)

Participation to commissions (national/international)

- President of Education and training Committee (ETC) of the Federation of African Medical Physics organizations (FAMPO).

- Member of Awards & Honors Committee (AHC) at the International Organization of Medical Physics (IOMP).

- Member of Scientific Committee (CRNA/COMENA).

- Member of Scientific and technical Committees (COMENA)

Training and supervising activities

- Participation in the development of the program of education of post-graduate degrees (Magister and Master) in medical physics.

- Lecturer of physics of diagnostic radiology in Medical physics post-graduate programs.

- Lecturer of physics of Nuclear Medicine in Medical physics post-graduate programs.

- Lecturer in different IAEA RTC in the field of medical physics and radiation protection in diagnostic radiology

- Thesis supervision/defense in medical physics



Pr. Francesco Giammarile
IAEA

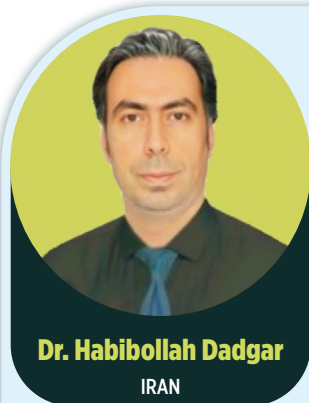
From 2006 to 2017, he was a professor in the nuclear medicine department of the university hospital in Lyon, a senior lecturer in the medical school and an associate researcher in the university lab EA3738 (Centre de Recherche Thérapeutique en Oncologie). His research activity combines both basic and applied clinical aspects. His main field of

Pr. Francesco Giammarile is a physician licenced in Italy and in France, with a post-graduate degree in nuclear medicine, a PhD in biophysics and MSc in oncology, pedagogy, hyperbaric medicine and nuclear physics.

At present, he works as Senior Technical Officer for the International Atomic Energy Agency for the development of Nuclear Medicine in low to middle income countries.

interest is nuclear oncology, including diagnosis with special emphasis in hybrid imaging such SPECT/CT and PET/CT, sentinel lymph node and surgical guided procedures, and radionuclide therapy. More specifically, he has developed a research program evaluating the clinical impact of PET imaging in therapy response and outcome prediction in lymphoma and lung cancer patients. He coordinated several national and international clinical projects and is involved in several research programs funded by the French Government, in the field of general oncology, lymphoma, lung cancer, breast cancer, colorectal cancer, osteosarcoma, neuroblastoma, neuroendocrine tumours. Since 2017, he is the Congress Chair of the European Association of Nuclear Medicine.

He has over 170 co-authored indexed publications in peer reviewed journals, in addition to about 100 publications in national journals, 120 publications in conference proceedings and several books and CD-ROM in biophysics, for medical students, and nuclear oncology, for physicians. On Google Scholar, he has about 4800 quotations, and a H-index of 36



Dr. Habibollah Dadgar
IRAN

Habibollah Dadgar is a medical physicist specializing in nuclear medicine and molecular imaging. His expertise spans theranostics, cancer imaging, and advanced image analysis techniques, including deep learning-based methodologies in PET-CT imaging. Dadgar's groundbreaking research has focused on optimizing imaging protocols and enhancing diagnostic accuracy, especially in low-dose imaging scenarios. In addition to his research, Dadgar has extensive experience teaching and mentoring in medical physics, sharing his knowledge to advance the next generation of experts. He is actively involved in applying theranostics for cancer treatment, bridging the gap between cutting-edge science and clinical practice. In addition to his supervisory role, Habibollah Dadgar serves as the head of the cyclotron facility at Razavi Hospital.



Dr. Aysar Khalaf
IRAQ

Chairman, Department of Nuclear Medicine and Cyclotron Facility

Program Director, Arab Board Nuclear Medicine Training Program

Warith International Cancer Institute, Karbala, Iraq

Dr. Aysar Najeh Khalaf is a Nuclear Medicine specialist from Iraq with extensive experience in clinical practice, education, and radiopharmaceutical development. He earned his MBChB from Baghdad College of Medicine in 2007 and achieved the top rank in the Jordanian Board of Nuclear Medicine examination in 2018.

He completed a postgraduate fellowship at King Hussein Cancer Center (KHCC) in Jordan, where he also served as a Nuclear Medicine Specialist. Dr. Khalaf has authored and co-authored several scientific publications in the field.

In 2024, he became the first Iraqi physician to be certified by the Asian Nuclear Medicine Board (ANMB). Currently, he leads the Nuclear Medicine and Cyclotron Facility at Warith International Cancer Institute and directs the Arab Board Nuclear Medicine Training Program, contributing significantly to the advancement of Nuclear Medicine services in Iraq and the region.



Pr. Paolo Castellucci
ITALY

Specialist in Radiology

He is currently Senior Physician at the Service of Nuclear Medicine of the IRCCS Azienda Ospedaliero-Universitaria S.Orsola, Bologna. From 2005 he is Professor at the "School of Nuclear Medicine" at the University of Bologna.

He has experience in whole body PET/CT imaging using different Radiopharmaceuticals (18F-FDG, 11C-Choline, 68Ga-PSMA, 68Ga-DOTA-NOC, 18F-FACBC, 11C-Methionine, 11C-Acetate, 18F-DOPA, 11C-Ephedrine, 64Cu-ATSM, 18F-FLT). His main field of interest is imaging and radionuclide therapy in prostate cancer. Co-Author of more than 200 peer reviewed works. Invited speakers in many international conferences and congress. He collaborates with the IAEA, for whom he performed missions worldwide as Nuclear Medicine expert. He is the chief editor of the EANM Guide Book 2020 and 2025.++



Dr. Raja Otmane
ALGERIA

A distinguished nuclear medicine specialist with over 20 years of clinical experience, currently serving as Assistant Professor and Chief Physician at the Department of Nuclear Medicine, Cancer Treatment Centre, Annaba. Their career exemplifies dedication to patient care, continuous learning, and professional leadership in Algeria's medical community.

Career Progression

Graduated in Nuclear Medicine from University Hospital of Bab El Oued, Algiers (2010), they steadily advanced through Assistant positions at

Constantine and Annaba University Hospitals (2011-2015-). Since 2015, they have served as Senior Assistant and Chief Physician at the Cancer Treatment Centre in Annaba, advancing to Assistant Professor. They hold specialized expertise in thyroid and neuroendocrine tumors, serving as Expert Member of the Eastern Regional Thyroid and NETs Multidisciplinary Meeting since 2018.

Their comprehensive training spans prestigious European institutions, demonstrating expertise across multiple nuclear imaging. In 2024, they earned an Inter-University Diploma in Oncological Imaging from Sorbonne University, Paris. Throughout 2023, they completed

advanced training placements at leading Parisian hospitals (AP-HP), specializing in theranostics, nuclear cardiology, PET, and NET management.

Beyond nuclear medicine, they possess strong radiological skills including CT scan expertise gained conventional imaging skills and hold a University Diploma in Cervical and General Ultrasound supervised by Professor H el on APHP, Paris (2013). Additional qualifications include radioprotection certification (top of class, 2018).

Leadership and Professional Service

Currently holding three prominent positions: Vice President of the National Association of Nuclear Medicine (2024), Vice President of the Algerian Society of Thyroid and Parathyroid Pathology (2025), and Expert Member of the Ministry of Health's Nuclear Medicine Committee (2024). They have become a leading voice in advancing nuclear medicine practice and multimodal oncological imaging throughout Algeria.



Pr. Flamen Patrick
BELGIUM

MD, PhD, is since 2003 the head of the Nuclear Medicine department of the Jules Bordet Institute, a dedicated comprehensive university cancer institute which has recently been integrated within the Brussels University Hospital (H.U.B) of the Universit  Libre de Bruxelles (ULB).

Patrick Flamen graduated at the Medical School of the University of Gent, Belgium, in 1990. He specialized in Nuclear Medicine at the Vrije Universiteit van Brussel (VUB) in Brussels. Thereafter, he worked for 5 years in the University Hospital of Leuven, Belgium, where he obtained

a PhD degree in Biomedical Sciences in May 2001 on the use of FDG PET imaging in Digestive Oncology. He presently has an academic appointment at the Universit  Libre de Bruxelles (ULB).

His research activities are focused on the development and clinical introduction of nuclear medicine applications in oncology, including both diagnostic (molecular imaging with PET/CT) and therapeutic (radiotheranostic) applications.

Radiotheranostics has now become his major research headline. He significantly contributed to the clinical development and optimization of new targeted radionuclide treatments: Lu177-dotatate for neuroendocrine tumors, Lu177-PSMA for metastatic prostate cancer, radioembolization of liver tumors, radioimmunotherapy of CD20-positive lymphoma and Ra223 for bone metastasis.

He is involved in numerous academy and industry sponsored trials on the early development and clinical introduction of innovative therapeutic applications in the fight against cancer.

In 2023 his nuclear medicine department (HUB) performed more than 11.000 PET-CT, 8.000 SPECT-CT and 400 radioligand therapies. The heavy equipment includes 3 PET-CT, 1 PET-MRI, 4 SPECT-CT, a GMP radiopharmacy, a dedicated hospitalization ward for radionuclide therapies, a cyclotron and a preclinical research lab (Atheno).

He is the (co)author of 296 peer reviewed scientific articles and 5 book chapters.

Research gate: citations 8953; H-index: 49

He is the President of the Therapy WG of the Belgian Scientific Association of Nuclear medicine (BELNUC).



Pr. Mike Sathekge
SOUTH AFRICA

Mike Sathekge is a Professor and Head of Nuclear Medicine department at University of Pretoria and Steve Biko Academic Hospital. He also heads the South African Nuclear Medicine Research Infrastructure (NuMeRI). Internationally he is one of the two Editor-in-Chiefs of the Seminars of Nuclear Medicine Journal, Editor for Image of the Month of the European Journal of Nuclear Medicine and Molecular Imaging, Associate Editor for the World Journal of Nuclear Medicine. Mike is the President-elect of the World Association of Radiopharmaceuticals and Molecular Therapy (WARMTH).

Mike has performed several the first-in-human studies and introduced peptide receptor radionuclide therapy and peptide radioligand therapy in Africa, as well as ²²⁵Ac-PSMA for prostate cancer. His publication and invited presentations record has earned him several key awards for research, including being rated as an Internationally Acclaimed researcher by the National research Foundation, winning the award to host the Main Nuclear Medicine Research Infrastructure (NuMeRI) Facility in South Africa. NuMeRI will be equipped with a cyclotron, a GMP radiopharmacy production facility, plus state-of-the-art pre-clinical and clinical imaging modalities.



Pr. M.A Bouzid
ALGERIA

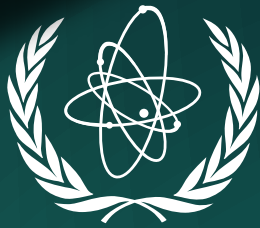
Cardiologue intervétionnel
Chef de l'unité de cathétérisme cardiaque du CHU BENÏMESSOUS



Dr. Djihed Belabdi
ALGERIA



Pr. Kheireddine Chettibi
ALGERIA



IAEA



COMENA

ICON 25

ORAL
COMMUNICATIONS

CO-01 PET/CT ¹⁸F-FDG and Prosthetic Endocarditis : Toward Improved Diagnostic Detection.

Rakia Ghannem, Medical resident, Nuclear Medicine department, Sousse, Tunisia,
 El Hraiech.A, Cardiology department, Sousse, Tunisia
 Ezzine.A, Nuclear Medicine department, Sousse, Tunisia
 Ben Saad.S, Cardiology department, Sousse, Tunisia
 Charfi.J, Nuclear Medicine department, Sousse, Tunisia
 Naffati.E, Cardiology department, Sousse, Tunisia
 Chatti.K, Nuclear Medicine department, Sousse, Tunisia

Introduction:

Infective endocarditis (IE) involving cardiac prosthetic material is diagnostically challenging. ¹⁸F-FDG PET/CT, incorporated into modified diagnostic criteria, has shown value in detecting prosthetic/device-related complications and guiding management.

Methods:

We conducted a cross-sectional, descriptive and analytical study in the Nuclear Medicine Department from November 2019 to August 2024. All patients referred for suspected IE on cardiac prosthetic material from various Tunisian hospital units were included.

Results:

Twenty-four patients were enrolled: 15 with suspected valve infection, 5 with suspected infection of intracardiac devices, and 4 with suspected vascular prosthesis infection. Definitive IE was confirmed in 11 patients. ¹⁸F-FDG PET/CT yielded a sensitivity of 81.8%, specificity of 92.3%, positive predictive value of 90.0%, negative predictive value of 85.7% and overall diagnostic accuracy of 87.5%. Patients with confirmed IE had significantly higher SUVmax ($p = 0.009$) and SUVmax ratio ($p = 0.037$) compared with non-confirmed cases.

Conclusion:

In this cohort, ¹⁸F-FDG PET/CT demonstrated high specificity and good sensitivity for prosthetic- and device-related IE, with quantitative uptake parameters (SUVmax and SUVmax ratio) distinguishing confirmed cases. These findings support the role of PET/CT as a key adjunct in the diagnostic workup of complex prosthetic cardiac infections.

CO-02 Handling Complex Nuclear Medicine Images Towards Reliable Prediction for Parathyroid Glands: An Uncertainty-Aware Machine Learning Approach.

Ouassim BOUKHENOUFA, Université Marie et Louis Pasteur, Supmicrotech, Institut FEMTO-ST, Besançon, France, Laurent COMAS, CHU Besançon, Médecine nucléaire, F-25000, Besançon, France, Jean-Marc NICOD, Université Marie et Louis Pasteur, Supmicrotech, Institut FEMTO-ST, Besançon, France, Noureddine ZERHOUNI, Université Marie et Louis Pasteur, Supmicrotech, Institut FEMTO-ST, Besançon, France, Hatem BOULAHDOUR, CHU Besançon, Médecine nucléaire, F-25000, Besançon, France

Introduction.

Artificial Intelligence (AI) has become an assistance tool in clinical practice, supporting diagnosis and image interpretation. In nuclear medicine imaging, several challenges persist: acquisition noise, heterogeneous quality, and overall image complexity, which complicate interpretation and analysis. These issues, combined with the scarcity of annotated data, hinder the development of robust intelligent systems and raise concerns about their clinical reliability. Therefore, beyond accuracy, such applications require calibrated confidence estimates and mechanisms to manage uncertain predictions. In this study, we propose a workflow that integrates AI with conformal prediction to flag uncertain cases for physician review, while automatically predicting only confident cases.

Materials and Methods.

After injecting ^{99m}Tc-MIBI and ¹²³I, a series of planar images is obtained using a gamma camera (Discovery NMCT 670 or Infinia GE Healthcare). Acquisition begins with an image of the mediastinum (low-energy, high-resolution collimator (LEHR)) for 5 minutes, followed by images of the thyroid region (Pinhole) for 10 minutes. This produces two dual-isotope images for each type of acquisition. The image resulting from the subtraction of the ¹²³I image from the ^{99m}Tc-MIBI image is used for diagnosis.

In this study, 392 subtracted images were analyzed, consisting of 191 negative and 201 positive cases. Preprocessing consisted of pixel normalization and image quality enhancement using a Non-Local Means Denoising filter, which reduces acquisition noise and artifacts while preserving structural details. Feature extraction combined two complementary approaches: deep representations learned from a convolutional neural network and handcrafted statistical descriptors (kurtosis, mean, standard deviation, entropy) computed from the raw images. The resulting features were then combined and reduced using Lasso regression, which promoted sparsity and retained the most discriminative predictors. Classification was performed using a LightGBM model trained on the selected features to produce probabilistic predictions for each case. To quantify uncertainty, conformal prediction was applied on top of the classifier. Ambiguous cases, where prediction sets included multiple possible outcomes, were flagged for physician review and accompanied by an explainability heatmap, while confident cases were classified automatically.

Results.

The integration of conformal prediction significantly enhanced classification performance. Accuracy improved from 81% to 89%, sensitivity from 85% to 91%, and specificity from 72% to 85%. Calibration also benefited: negative log-likelihood decreased from 0.50 to 0.29, and expected calibration error from 0.43 to 0.10. These findings show that the detection and filtering of ambiguous predictions not only reduced misclassifications but also yielded outputs that were more consistent and trustworthy.

Conclusion.

This study demonstrated that conformal prediction contributes to improving the robustness of AI in nuclear medicine imaging. By detecting and filtering ambiguous cases, substantial gains in both predictive accuracy and calibration reliability were achieved, highlighting the value of explicitly managing uncertainty. The proposed workflow offers a balanced strategy between automated analysis and clinical oversight, providing a solid basis for future work that combines uncertainty quantification with AI to strengthen the reliability and clinical relevance of intelligent systems.

CO-03 Cervical cancer: lymphatic mapping and sentinel lymphadenectomy

A systematic review of the literature data.

Tarik-Zine Belhocine*, Dr. Jean-Luc Urbain **

* Nuclear medicine physician; Member of the Royal College of Physicians and Surgeons of Canada; Member of the EANM

** Nuclear medicine physician; President of the SNMMI; former Chief of Nuclear Medicine at Wake Forest University/Baptist Medical Center; and Roswell Park Comprehensive Cancer Center (USA).

Introduction:

Cervical cancer is the second most common gynecological cancer worldwide. In the N-staging of the disease, the lymphatic mapping and sentinel lymphadenectomy (LM/SL) is a critical step considered and recommended by the ESGO/NCCN/FIGO and the ESTRO/ESP and the SNMMI/EANM guidelines. A systematic review was undertaken to assess the literature data on LM/SL with SPECT-CT in this gynecological cancer type.

Methods:

A comprehensive search was performed on NIH/PubMed and Google and Research Gate databases from inception up to May 2025 and sorted by the publication date with no filters. The key-words used were: 1- ""SPECT-CT + cervical cancer + sentinel lymph node""; 2- ""SPECT-CT + cervix""; 3- ""SPECT-CT + ICG + cervical cancer""; 4- ""sentinel lymph node + cervical cancer + gynecological cancer""; 5- ""sentinel lymph node + cervical cancer + ICG"". In some articles, the first/main authors were contacted by e.mail and provided detailed data on their SPECT-CT study.

Results:

In cervical cancer, 29 articles from 14 countries were retrieved. The studies included 1454 cervical cancer patients with FIGO stages Ia-Ila and Ia-Ib most often. These single-center studies included 9 retrospective studies, 18 prospective studies, and 1 retrospective analysis of a prospective study; in 1 article, the study design was not precised. In this systematic review, a retrospective multicenter study (a European MC study) and a prospective multicenter study (The IAEA Sentinel Node Trial) were also included. The data on LM/SL in early-stage disease evaluated the hybrid imaging SPECT/CT (hardware image fusion; 26 studies) or SPECT plus CT/MRI (software image fusion; 1 study) or SPECT/CT plus Gd/MRI or SPECT/CT plus SPIO/MRI (hardware image fusion and software cognitive image fusion; 2 studies) or SPECT/CT plus ICG-NIR (8 studies) or SPECT/CT plus ¹⁸FDG PET/CT or PET/MRI (3 studies). The LM/SL used different pre-operative SPECT-CT radiotracers and MRI tracers and the hybrid tracer ICG-^{99m}Tc-NC; and the intra-operative blue dye and the indocyanine green dye, and also the G-probe guidance. The SPECT-CT imaging was performed in a 1-day protocol (8 studies) or in a 2-day protocol (17 studies) or in a 12/ day-protocol (2 studies); it was not precised in 2 studies. The lymphadenectomy technique and the pathological analysis of the SLNs were precised; the laparoscopy and/or the robotics with ultrastaging were used in most studies. Overall, the mean DR=90.9%-91.9%, the mean SV=90.2%-98.3% and the mean NPV=93.5%-98.9% depending on the LM/SL with SPECT-CT protocols used. The SPECT-CT was superior to planar imaging for the overall DR of SLNs, but the ICG-NIR was superior to SPECT-CT for the bilateral DR of SLNs.

Conclusion:

In early-stage cervical cancer (FIGO Ia-IIa), LM/SL plus SPECT-CT is of added-value for precise anatomic and functional imaging of SLNs in predictable and unpredictable lymphatic pathways. ICG with near infra-red fluorescence imaging is of added-value for bilateral detection of SLNs. LM/SL plus SPECT-CT pre-operatively and ICG-NIR intra-operatively should be recommended for accurate assessment of LN status with pathological ultrastaging. Hybrid imaging with the hybrid tracer ICG-99mTc-NC opens new avenues for LM/SL.

CO-04 Therapeutic de-escalation in low-risk DTCs: towards personalized care.

Dr. Babatoundé Frejuste Pinocio AGBOTON, Dr. D. MOUAS, Dr. M. HEMAZ, Dr. Z. HAOUSSINE, Dr. S. KEITA, Dr. O. ARAR, Dr. I. DJEGHABA, Dr. A. MAHDADI, Dr. M. LAGHMASSI, Pr. A. AMIMOUR
Nuclear Medicine Department, Mohamed Lamine Debaghine University Hospital, Algiers
University of Health Sciences, Algiers

Introduction

Differentiated thyroid carcinomas (DTC) account for more than 85% of thyroid cancers and generally have a good prognosis. Radioiodine therapy, administered after total thyroidectomy, destroys any remaining thyroid tissue and reduces the risk of recurrence, but exposes patients to side effects associated with radioactive iodine. The indication and iodine activity in low-risk DTC are the subject of debate.

Current recommendations favor adaptation according to risk stratification. In Algeria, clinical data remain limited, hence the interest of this preliminary study aimed at describing the profile of patients with low-risk DTC and evaluating our de-escalation approach in this type of patient treated at the Bab El Oued University Hospital (CHU BEO).

Objective

To analyze the sociodemographic, clinical, anatomopathological, and therapeutic characteristics of patients with low-risk DTC treated with iodine-131, as well as the evolution of their pathology after radioiodine therapy.

To evaluate the therapeutic de-escalation initiated in recent years in the nuclear medicine department of CHU BEO.

Methods

Retrospective, descriptive study including 235 patients treated between 2005 and 2025 with total thyroidectomy followed by radioactive iodine therapy and classified as "low risk." Data were extracted from medical records and patient follow-up.

Results

The mean age at diagnosis was 50.3 ± 13.3 years (range: 5–80). The majority of patients were female (90.6%). The circumstances of discovery were mainly cervical swelling (23.6%), incidental (19.4%), or during a cervical ultrasound (16.7%).

The classic papillary type predominated (68.7%), followed by the papillo-vesicular type (25.3%). According to the TNM classification, 45% were T1a, 35% were T1b, and 20% were T2; multifocality was present in 29.7% of patients.

Patients had N0 or NX lymph node status, with no distant metastasis.

Total thyroidectomy was performed in all patients, with lymph node dissection in 23.0% of cases, most often central.

The median time between surgery and radioiodine therapy is 8.6 months. The administered activity ranges from 30 to 100 mCi. A single course of treatment is sufficient in most cases, with a favorable outcome and no recurrence.

This outcome is similar regardless of the activity administered (high or low), suggesting the efficacy of low activities, as demonstrated in the Estimable 1 and 2 trials.

Conclusion

Low-risk DTCs treated at Bab El Oued University Hospital mainly concern middle-aged women, often diagnosed on the basis of a cervical mass. The prognosis remains good, encouraging gradual de-escalation in iodine-131 treatment.

CO-05 Pediatric differentiated Thyroid Carcinoma : Experience of the Nuclear Medicine Departement at Bab El oued Hospital

Feriel Koudri, A.Amimour, A.Talbi, S.Rahabi, A.Khelifa, L.Belabas, S.Benzedjeb, S.Brahmi, L.Chelghoum, M.Lamali, D.Mouas, D.Tahmi
Department of Nuclear Medicine and Molecular Imaging, Mohamed Lamine Debaghin Hospital (Bab El Oued).
University of Health Sciences of Algiers

Introduction :

differentiated thyroid carcinoma is the most frequent endocrine malignancy, but relatively rare in the pediatric population with an incidence of 1.5 per 100 000 ; data reports and studies of childhood DTC are limited resulting a lack of consensus guidelines, the objective of this study is to determine the characteristics of DTC in the Algerian pediatric population.

Methods :

this is a retrospective cohort study including patients diagnosed with DTC at an age under 19 years , directed to Nuclear Medicine department at Lamine Debaghin (Bab-El-Oued) Hospital for isotopic management, over a period of 21 years (between 2004 and June 2025).

Results :

the study population consisted of 98 pediatric patients identified over a total of 6976 patients registered (1,4%), with a female to male ratio of 4,5:1. The median age at diagnosis was 14,4 years (range 02 to 19 years), a median follow-up period of 57,9 months (range 01 to 205 months). Ninety seven (97) patients had a Papillary Thyroid carcinoma, among them, 61 had the classical subtype, 22 the follicular subtype, 6 the oncocytic subtype, 4 the solid subtype, one patient had the Hobnail subtype and another one the columnar cell subtype ; NIFTP was reported in one case. Metastatic form was found in 61 patients, cervical lymph nodes (98%) and lungs (24%) are the most frequent secondary locations, bone metastases are less common (4%). Most patients (97) underwent a total thyroidectomy, lymph node dissection was performed for 58 patients and only 6 patients presented post-operative complications. Ninety-three patients (94,9%) underwent 131-I ablation therapy after initial surgical treatment in an average period of 4,66 months ; five patients (3,1%) did not receive 131-I treatment, lost to follow-up. Mean activity of Radioactive Iodine administered as a primary treatment was 3,35GBq (90,59mCi) ; the average number of RAI administration was 1,77 (range 01 to 8) with a mean cumulative activity of 13,29GBq (359,32 mCi).

Conclusion :

the global prognosis in children with DTC is good, with a high survival rate, thus a multidisciplinary management with evidence-based recommendations are essential to potentiate the benefits of Radioactive Iodine

CO-06 Radioiodine therapy in the era of personalized thyroid cancer care.

MANSOURI Farouk, Nuclear medicine departement Dr BENBADIS University Hospital. Constantine. Algeria

A monocentric, observational, longitudinal, and prospective study was conducted in the Nuclear Medicine Department of CHU Dr. Benbadis, Constantine, including 545 adult patients who underwent total thyroidectomy followed by radioiodine therapy risk adapted. Baseline risk stratification was performed using established prognostic staging systems. Treatment response was assessed at 6 and 12 months, and subsequently at regular intervals, with therapeutic management dynamically adapted according to individual risk evolution until study completion.

A total of 545 adult patients were included out of the 581 initially recruited between January 1, 2018, and January 1, 2024. The sex ratio was 1:4.8 (male:female), with a mean age of 44 ± 14 years; 73% were younger than 55 years. Papillary carcinoma was the predominant histological subtype (87.5%), followed by follicular carcinoma (8.3%). Tumors were classified as pT1 in 58.7% of cases; 72.5% were unifocal and 80.4% unilateral. Extrathyroidal extension was observed in 10.2% of patients, lymph node metastases (N1) in 13.9%, extranodal extension in 15.6%, and distant metastases (M1) in 7%, predominantly bone (64.4%) and lung (47.7%). Prognostic classifications were distributed as follows: AJCC stage I, 88.4%; low-risk ATA, 50.3%; AGES I, 77.6%; MACIS I, 63.1%; and low-risk AMES, 63.5%.

The response to initial therapy at 6 and 12 months was respectively: excellent response (ER) in 61.7% and 73.6%, indeterminate response (IR) in 18.7% and 8.4%, biochemical incomplete response (BIR) in 10.3% and 6.8%, and structural incomplete response (SIR) in 9.4% and 11.2%. After a mean follow-up of 58 ± 10 months, the final clinical outcomes were: disease-specific mortality 2.8%, SIR 7.3%, BIR 5.1%, IR 2.2%, and ER 82.6%

CO-07 Impact of ¹³¹I-mIBG Scintigraphy on Initial Staging, Therapeutic Strategy, and Prognosis in Pediatric Neuroblastoma: A Retrospective Cohort Study at CHU Bab El Oued.

Victor Humura, Abdelkrim Talbi, Assia Amimour
CHU Bab El Oued Médecine Nucléaire, Alger, Algeria

Introduction:

Neuroblastoma is the most common extracranial solid tumor in children.

Accurate initial staging and risk stratification, primarily defined by the International Neuroblastoma Risk Group (INRG) system, are critical for determining optimal treatment. While conventional imaging (CT, MRI, Bone Scan) forms the basis of staging, ¹³¹I-meta-iodobenzylguanidine (mIBG) scintigraphy is a highly sensitive and specific functional imaging modality for detecting metastatic disease. However, its definitive impact on altering initial staging, subsequent therapeutic decisions, and its prognostic value in a defined cohort in Algeria requires further investigation.

Objectives :

This study aims to: 1) Quantify the change in initial INRG staging after integrating diagnostic ¹³¹I-mIBG scintigraphy, specifically determining the proportion upstaged to metastatic (M) stage; 2) Determine the proportion of therapeutic strategies modified directly by mIBG findings; and 3) Evaluate the correlation between post-chemotherapy mIBG response (Curie score) and 06 months Event-Free Survival (EFS), with a specific focus on M-stage patients.

Methodology :

A single-center, retrospective, observational, longitudinal cohort study will be conducted at the Pediatric Oncology Service of CHU Bab El Oued, Algiers. The study will include 30 pediatric patients (≤ 18 years) newly diagnosed with neuroblastoma in the calendar year 2025, who underwent both pre- and post-chemotherapy ¹³¹I-mIBG scintigraphy. Data on demographics, INRG staging based on conventional imaging versus integrated mIBG, initial and final treatment plans, Curie scores, and 06 months EFS will be extracted from medical records using a structured case report form. Statistical analysis will employ McNemar's test for staging changes, descriptive statistics for therapeutic impact, and Kaplan-Meier survival analysis with the log-rank test to assess the prognostic value of the Curie score.

Anticipated Results :

We hypothesize that diagnostic ¹³¹I-mIBG scintigraphy will identify occult metastatic disease in at least 20% of patients, leading to significant upstaging. We anticipate that these findings will be the primary reason for intensifying the initial treatment plan in over one-third of the cohort. Furthermore, we hypothesize that patients achieving a complete metabolic response (Curie score = 0) post-chemotherapy will have a significantly superior 2-year EFS compared to those with an incomplete response, a prognostic value expected to be maintained within the M-stage subgroup.

Conclusion : This study will provide crucial, localized evidence on the pivotal role of ¹³¹I-mIBG scintigraphy in the modern management of pediatric neuroblastoma. The findings are expected to underscore its indispensability for accurate initial staging, optimal treatment stratification, and reliable prognosis, particularly in high-risk M-stage disease, thereby advocating for its essential integration into the standard diagnostic and follow-up workflow.

CO-08 Cross metabolic modulation of FDG avidity in EGFR positive Lung Adenocarcinoma following Platinum based chemotherapy for colorectal cancer.

Djazia Meziane, A. Talbi, A. Amimour
Department of Nuclear Medicine and Molecular Imaging, Mohamed Lamine Debaghine Hospital (Bab El Oued), Algiers, ALGERIA

Introduction:

¹⁸F-FDG PET/CT plays a critical role in the follow-up of colorectal cancer and in the characterization of pulmonary nodules detected during surveillance. EGFR-mutated lung adenocarcinomas are typically highly glycolytic and show intense FDG uptake. We report a case of unexpectedly moderate FDG uptake in a pulmonary neoplasm occurring after prior chemotherapy, raising the hypothesis of a cross-metabolic modulation potentially related to platinum-based agents.

Case Report :

A 70-year-old female patient, previously treated for mucinous colorectal adenocarcinoma with surgery and adjuvant chemotherapy including oxaliplatin as part of the FOLFOX protocol, developed new right pulmonary nodules on follow-up thoracoabdominal CT scan. Subsequent ¹⁸F-FDG PET/CT revealed moderate FDG uptake (SUVmax 4.65) in these nodules, despite suspicious morphological features. Histopathological analysis confirmed a primary lung adenocarcinoma expressing TTF1 and harboring an EGFR mutation.

Discussion :

EGFR-mutated lung adenocarcinomas typically exhibit high glycolytic activity and consequently intense FDG uptake. The moderate SUVmax observed here contrasts with the expected elevated FDG avidity in treatment-naïve EGFR-positive lung tumors. Given the patient's history of prior platinum-based chemotherapy, specifically oxaliplatin in the FOLFOX regimen, we hypothesize a cross-metabolic effect impacting tumor glycolytic metabolism. Platinum agents are common to both colorectal and lung cancer therapies and may induce long-lasting metabolic alterations in tumor cells or their microenvironment, leading to reduced FDG uptake.

Supporting this, Calvo et al. (2017) demonstrated that oxaliplatin-based chemotherapy can significantly reduce SUVmax in colorectal tumors, reflecting metabolic modulation. This effect may influence FDG PET/CT interpretation in such clinical contexts.

Conclusion:

This case highlights a potential cross-metabolic influence of prior chemotherapy—particularly platinum salts—on FDG uptake in secondary malignancies. Accurate interpretation of PET/CT in complex oncologic contexts requires careful consideration of the patient’s treatment history. Further studies are needed to better characterize pulmonary nodules in patients previously treated with chemotherapy, to refine diagnostic accuracy and optimize patient management.

CO-09 High Scores, Quiet Bones: Rethinking Risk in Prostate Cancer.

Dr. Ines Chettibi, Dr. R.Otmane, Dr. M.Largueche

Department of nuclear medicine and molecular imaging – Cancer Center CHU Annaba, ALGERIA.

Background :

Bones are the most common site for metastases from prostate cancer, due to the high propensity of these osteoblastic metastases to spread to the skeleton, bone scan remains the conventional imaging modality to detect skeletal metastases in prostate cancer patients.

Current clinical guidelines recommend performing a bone scan for patients with newly diagnosed prostate cancer who present with high risk features characterized by a PSA > 20 ng/ml or a Gleason score \geq 8 (ISUP grade group 45-), or clinical stage of T3-T4, a bone scan is also recommended for symptomatic patients with signs of skeleton involvement.

This study aims to evaluate the correlation between high PSA levels, high Gleason scores and the absence of metastases on bone scans in high risk prostate cancer patients.

Material and methods :

This retrospective study included newly diagnosed prostate cancer patients referring to nuclear medicine department of Annaba from January 2022 to May 2025, with a mean age of 70,5 years. Only 100 patients out of 246 met the predefined criteria of inclusion:

1. PSA level
2. Gleason score
3. Bone scan report

Bone scans were performed using 99mTc-MDP administered intravenously at a dose ranging from 8 to 20 mCi. A whole-body planar imaging and SPECT/CT acquisitions were performed 2 hours post-injection using a hybrid dual head gamma camera (SPECT/CT) equipped with low-energy-high-resolution (LEHR) collimators.

Groups were compared using chi-square test ($p < 0.05$ was considered statistically significant).

Results and Discussion :

Among the 100 patients included in this study 66% patients had negative bone scan, 28% patients had positive results while 6% were suspicious cases with no clear evidence of bone metastases. This study revealed an unexpected significant proportion of negative bone scans among high risk prostate cancer patients .

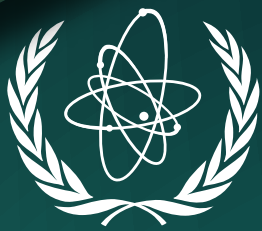
54 high risk patients with high PSA levels > 20 ng/ml had an identical rate of positive and negative bone scans (46%) while (8%) were suspicious cases.

Even if the 34 patients with high Gleason scores \geq 8 had a slightly higher rate of positive bone scan (50%), a significant proportion (44%) still had negative results while (6%) were suspicious cases.

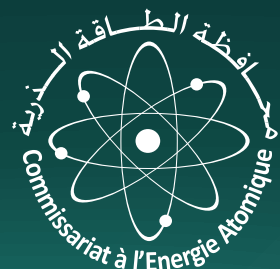
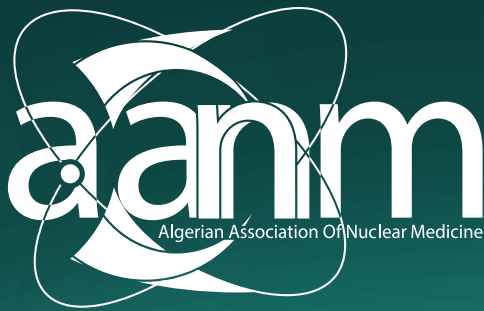
Conclusion:

Despite the well-established association between high PSA levels > 20 ng/ml, aggressive Gleason scores \geq 8 and metastatic bone scans our study also revealed a significant proportion of negative bone scans in high risk prostate cancer patients.

These findings may challenge the conventional expectations that high risk features often align with bone metastases but they may also raise some key questions, like the potential limitations of bone scan in detecting early or indolent bone metastases, highlighting the need for further studies investigating false-negative bone scans using more sensitive and specific imaging modalities, above all PSMA PET scan.



IAEA



COMENA

ICON 25

POSTERS

P-01 Bone scan in Forestier's disease.

Sarra KACI (Dr), Marouf.F(Dr) / BENHAMDI.M(Dr) / ZEHNATI.T(Pr) / BENRABAH.M(Pr)

Forestier's disease, also known as Diffuse Idiopathic Skeletal Hyperostosis (DISH), is a rheumatologic disease, a common condition characterized by bony proliferation at sites of tendinous and ligamentous insertion. It primarily affects the spine of older individuals.

On imaging, it manifests as flowing bridging anterior vertebral osteophytes, most prominent in the thoracic spine. The presence of flowing anterior ossification spanning at least four contiguous vertebral levels with preserved disc spaces is often used to define the disease.

In this report a 72-year-old woman with a history of breast cancer presented for a bone scan assessment. The patient was administered 20 mCi of Technetium-99m methylene diphosphonate (99mTc-MDP), and delayed images were acquired three hours later, reveals abnormally increased uptake on thoracic spine which SPECT/CT was added to set apart the nature of these abnormal uptakes.

The results on the hybrid images were in favor of benign process showing a calcification of common anterior vertebral ligament and preservation of intervertebral disc spaces which is a pathognomonic sign of Forestier's disease.

Skeletal scintigraphy (BS) is a versatile medical imaging tool, providing a highly sensitive examination for bone pathology. However the differentiation of benign and metastatic lesions on evolution SPECT/CT images has superior diagnostic performance and diagnostic confidence over the planar scintigraphy. Therefore, Evolution SPECT/CT images should be considered in characterization of indeterminate lesions on planar scintigraphy, especially in the axial skeleton.

P-02 Mandibular and tibial Paget's disease revealed by bone scintigraphy in a patient whose tibial lesion mimics algodystrophy.

Toufik ZEHNATI Pr, Nuclear Medicine Department, HMRUO, Oran, Algeria. M. Benrabah, L. Benhamou, A. Mahtari, T. Bounab, Nuclear Medicine Department, HMRUO, Oran, Algeria, A. Amari. Physical Medicine and Rehabilitation, HMUSCORFA, Algiers, Algeria

Introduction:

Paget's disease is the most common benign metabolic bone pathology. It is often discovered incidentally on imaging. The most common sites are the pelvis and spine. The mandibular involvement is extremely rare according to the literature. We report a case of bi-ostotic Paget's disease (mandibular and tibial) revealed by bone scintigraphy in a patient referred for suspected algodystrophy of the leg.

Methods:

This 64-year-old overweight female patient with a history of hypertension presented with left leg pain that had been progressing for 6 years, accompanied by episodes of edema and redness. The patient was being followed in rheumatology; her physician suspected algodystrophy. He referred the patient to us for a bone scan to confirm the diagnosis. The bone scan was performed after injection of 20 mCi of 99mTc-HMDP. A dynamic acquisition centered on the left leg and completed by an early static acquisition of both legs, followed 3 hours later by a whole-body scan a tomoscintigraphy acquisition coupled with low-dose computed tomography (SPECT/CT).

Results:

The patient's scintigraphic examination revealed perfusion asymmetry in favor of the left leg. In the early phase, radiopharmaceutical accumulation occurred in the entire left leg. In the late phase, very intense uptake of the mandible was noted, giving a black beard-like appearance, which was reflected on SPECT/CT images as cortical thickening and enlargement of the bone. In the left lower limb, intense and slightly heterogeneous hyperuptake of the tibia was observed, with a curved and hypertrophied appearance.

Discussion: Osteitis deformans (Paget's disease) is a chronic focal bone remodeling disease characterized by an initial increase in osteoclast-mediated bone resorption, followed by a compensatory increase in new bone formation, resulting in a disorganized mosaic of woven and lamellar bone.

Discussion:

Paget's disease is a metabolic bone disease that most often develops in the elderly. Usually asymptomatic, but it can cause pain or signs of joint inflammation. This disease presents a risk of degeneration and malignant transformation, hence the importance of early diagnosis and appropriate therapeutic management (bisphosphonates, etc.). Bone scintigraphy is a very sensitive functional examination that allows the entire skeleton to be explored in a single step. It highlights metabolic bone changes early, and in some cases, scintigraphy can correct the diagnosis, as is the case in our patient.

Conclusion:

Scintigraphy is a useful diagnostic tool; it allows for lesion assessment and to determine the location, extent, and severity of Paget's disease, which helps guide treatment choices. Bone scintigraphy is also useful for assessing therapeutic response, particularly to bisphosphonates.

P-03 Parotid Hotspot : Warthin or Metastasis?

Rakia Ghannem, Habachi.C, Sfar.R, Saidi.W, Charfi.J, Ezzine.A, Chatti.K, Nuclear medicine department, Sousse, Tunisia

Introduction :

Warthin tumor (cystadenolymphoma) is a benign neoplasm that arises almost exclusively in the parotid gland. It frequently demonstrates intense ¹⁸F-FDG uptake, which can mimic malignancy on PET/CT and lead to false-positive findings during oncologic staging.

Observation :

A 52-year-old man with a history of heavy smoking underwent staging ¹⁸F-FDG PET/CT to locate the primary lesion for a cerebral metastasis. Imaging revealed bilateral, focal FDG-avid lesions of the parotid glands and an intensely hypermetabolic nodule at the right pulmonary apex. The pulmonary focus was suspicious for primary pulmonary adenocarcinoma, and the parotid uptake was initially considered possible metastatic disease.

Cervical ultrasound showed two well-circumscribed, oval intraglandular lesions at the inferior poles of both parotids, predominantly hypo-/anechoic with posterior acoustic enhancement and internal Doppler vascularity. Parotid MRI demonstrated T2 and intrinsic T1 hyperintensity, restricted diffusion with reduced relative ADC (<1), and a type-B perfusion curve. The combined sonographic and MRI pattern was highly suggestive of bilateral Warthin tumors and argued against metastatic involvement.

Conclusion :

Because Warthin tumors are often ¹⁸F-FDG-avid, recognition of their multimodal imaging signature is crucial in oncologic PET/CT interpretation to avoid misdiagnosis and unnecessary invasive procedures.

P-04 Irradiation Therapy With Iodine 131 for Graves' Disease: Report of 20 Cases.

Mourad Benrabah, T.Zahnati, Nuclear Medicine Department, Oran, Algeria

Graves' disease is one of the usual indications for radiation therapy with iodine 131 in the Nuclear Medicine department, where the majority of patients treated in our department are young (20-40 years old), referred after failure of medical treatment (Carbimazol).

The files have been collected since 2021 and the information is transmitted on a form with the following criteria: Age/Number of treatments/Recurrence/result (Hypothyroidism or euthyroidism) then statistical analysis of the sample.

The majority of patients treated for Graves' disease with radiation therapy in our department have achieved remission of their disease, with hypothyroidism as the major side effect, rarely euthyroidism.

The recurrence rate after the first course is <10%, requiring the administration of two to three additional courses.

The effectiveness of iodine therapy has been proven in the literature and in current practice, and the results of our patients treated in our department confirm this trend.

Resistance to iodine therapy, requiring a second or third course, is linked to an increased volume of the thyroid gland at the time of iodine-131 administration. Patients whose iodine therapy fails are referred for surgery.

Radiation therapy with iodine 131 is an effective therapeutic weapon for Graves' disease, to be favored in the young and professionally active population with a very low recurrence rate.

P-05 Place of scintigraphy with somatostatin analogues in the diagnosis and management of neuroendocrine tumors (about a series of 60 patients).

Mourad Benrabah, T.Zahnati, Nuclear Medicine Department, Oran, Algeria

Introduction: Neuroendocrine tumors (NETs) are rare, slow-growing tumors with an incidence of 2 to 5 new cases per 100,000 inhabitants/year.

Materials and methods:

- This is a series of 60 cases, in the nuclear medicine department, in whom a scintigraphic examination with somatostatin receptor analogues (SRS) was performed as part of the diagnosis, therapeutic monitoring, and extension assessment as well as in the context of an unknown initial tumor process.

Result:

-The (SRS) revealed several fixation foci or a single fixation focus corresponding to the initial tumor as well as during a negative scintigraphy post-surgery or post-chemotherapy.

SRS is a common indication in the staging of NETs when these are confirmed by histology, particularly by immunohistochemistry, which allows the tumor to be graded.

In our series, the histology was not always conclusive.

Conclusion:

The major diagnostic interest of SRS is that it complements other exploration techniques, particularly histological and radiological

P-06 Implementation of a PET/CT verification plan.

kheir Eddine Bensadallah, S.Rahab, A.Gouadjelia, H. Messaour, A.Amimour, Nuclear Medicine and Molecular Imaging Department, Bab Eloued University Hospital
Yucef El Khatib University of Health Sciences

The Bab El Oued University Hospital Center is equipped with two PET/CT scanners medical imaging devices that enable real-time observation of cellular metabolism (molecular imaging) through the injection of radiopharmaceuticals produced at the center (18F-FDG and 68Ga-peptides).

To ensure the reliability of the results and guarantee compliance, quality control procedures are carried out periodically (daily, monthly, and annually).

The objective of this work is to highlight the importance of PET/CT quality control in accordance with quality assurance standards.

P-07 Predictive value of 99mTc cervical uptake rate for ablation success in patients with differentiated thyroid carcinoma.

Toufik ZEHNATI, Pr, Nuclear Medicine Department, HMRUO, Oran, Algeria
M. BENRABAH, Pr, Nuclear Medicine Department, HMRUO, Oran, Algeria
L. BENHAMOU, Dr, Nuclear Medicine Department, HMRUO, Oran, Algeria
A. BOUZIDI, Dr, Nuclear Medicine Department, HCA, Algiers, Algeria
M.L. DERAÏ, Dr, Nuclear Medicine Department, HMRUC, Constantine, Algeria
K. SALAH SALAH, Dr, Nuclear Medicine Department, HMRUC, Constantine, Algeria

Introduction

Thyroid cancer is the most common solid endocrine tumor. Its treatment involves surgery, hormone therapy, and, in some cases, RAI therapy. The aim of this study was to assess whether cervical 99mTc uptake rates predict an excellent response to RAI therapy.

Methods

Prospective study included patients with low and intermediate-risk differentiated thyroid carcinoma (ATA 2015) eligible for RAI therapy with 1.11 GBq of iodine-131. Cervical scintigraphy was performed after administration of 111 MBq of 99mTc and determination of the cervical remnant uptake rate prior to IRA therapy. A blank scan was considered negative, and the software assigned an uptake rate of 0.01%. Ablation success was assessed nine months later. Excellent response criteria were a negative cervical ultrasound and an STg less than 1 ng/ml.

Results

One hundred and thirty-five patients were recruited in this study, five patients were excluded (lost to follow-up), and 130 patients were included in the final analysis, nine men (7%) and 121 women (93%) with mean patient age of 46.35 ± 11.78 years.

The mean uptake rate was 0.09% (range: 0.01% to 0.67%). The mean pre-ablation STg level was 5.4 ± 8.3 ng/ml (range: 0.04 to 64.6 ng/ml). Cervical scan was negative (0.01%) in 51 patients (39%) and positive ($> 0.01\%$) in 84 patients (61%). We observed a strong correlation between cervical 99mTc uptake and pre-ablation STg, which reflects residual thyroid mass ($r = 0.875$, p -value < 0.001). At the 9-month assessment, the excellent response rate was significantly and negatively correlated with the uptake rate ($r = -0.387$, p -value < 0.01).

According to ROC curves, the cervical 99mTc uptake rate predicting an excellent response to radioactive iodine-131 ablation was 0.071%, with a sensitivity of 85% and a specificity of 75%. An excellent response was observed in 96.4% of patients with an uptake rate $< 0.071\%$, compared to 58% of those with an uptake rate $> 0.071\%$.

Conclusion.

99mTc cervical scan is a simple and widely available method. 99mTc uptake has significant predictive value. A negative scan or positive one with an uptake rate $< 0.071\%$ strongly predict an excellent response in patients with differentiated thyroid carcinoma at low or intermediate risk treated with low-activity of iodine 131.

P-08 Nasopharyngeal Undifferentiated Carcinoma (UCNT) and Brucellar Spondylodiscitis: A Diagnostic Pitfall in M0 vs M1 Staging Workup - A Case Report.

Rayen Betouil, R.OTMANE, Nuclear Medicine Department CHU Annaba, Annaba, ALGERIA.

Introduction:

Undifferentiated Carcinoma of the Nasopharynx (UCNT) is a highly aggressive malignant tumor that develops from the nasopharyngeal mucosa. As a nasopharyngeal malignant tumor, it requires a precise staging workup, as the distinction between M0 and M1 disease determines the intention of the treatment, which is either palliative or curative.

Case Report:

We describe the case of 65-year-old male patient who presented with UCNT (T4 N2). The distant workup using bone scintigraphy revealed suspicious hyperuptake in the T8-T9 vertebrae and left sacroiliac joint, suggesting M1 disease. The patient's medical history included a regular consumption of raw unpasteurized milk, which represents a risk factor in an endemic area.

Results & Discussion:

Bone micro-biopsy of T8-T9 was negative for malignancy, showing only inflammatory changes. Wright serology was strongly positive at 1640/, leading to the diagnosis of Brucellar Spondylodiscitis. The original diagnosis prevented a damaging M1 over-staging and the patient's subsequent exclusion from appropriate curative care for UCNT. The patient was properly staged as T4 N2 M0 and offered curative-intent treatment for UCNT along with targeted antibiotic therapy directed at the underlying infection.

Conclusion:

This case highlights the importance of combining clinical history, serology, and histological confirmation when functional imaging suggests metastasis in endemic regions in order to avoid misclassification and preserve curative opportunities in oncological staging.

P-09 Radiation Protection Recommendations After Radioiodine Therapy : Experience Of The Nuclear Medicine Department Of Annaba.

Soumia CHABBI, Nuclear Medicine Department, Annaba, ALGERIA, R.OTMANE, Nuclear Medicine Department, Annaba, ALGERIA.

INTRODUCTION :

In our nuclear medicine and molecular imaging department, radioactive iodine treatment in capsule form is used to treat hyperthyroidism and papillary thyroid cancer. After taking the medication, patients must follow a set of recommendations to ensure their own protection, as well as that of those around them and their environment. A previous, highly simplified information sheet was given to patients, but it did not cover all the necessary recommendations. This limitation could compromise patient adherence to the recommendations and reduce the overall effectiveness of radiation protection.

Objective:

To develop a post-iodine therapy recommendation sheet and evaluate its impact on patient understanding and satisfaction.

MATERIALS AND METHODS:

We conducted a descriptive study in our department using a questionnaire containing 21 questions given to 57 patients treated with iodine-131 between August 15 and September 29, 2025.

RESULTS AND DISCUSSION:

In our study, before receiving the information sheet, approximately two-thirds of patients considered that the post-treatment iodine recommendations would be difficult to follow. Nearly a quarter considered them easy, while a small proportion had no specific opinion.

After reading the leaflet, 100% of patients found it easy to read and understand. In terms of satisfaction, approximately two-thirds said they were very satisfied and one-third said they were satisfied, with no cases of dissatisfaction.

These results show that before reading the information, patients had a negative or uncertain impression of the usefulness of the recommendations.

Providing a clear and appropriate fact sheet improved understanding and boosted confidence, leading to a high level of satisfaction.

Through this fact sheet, patients learn three fundamental principles of protection tailored to their situation: time, distance, and hygiene, which summarize all the recommendations and make them easier to apply in everyday life.

CONCLUSION:

It is essential to ensure patient compliance with radiation protection measures through clear, simple, and appropriate recommendations in order to enhance the safety of patients, their families, and the environment.

P-10 Radiobiology Informed Dosimetry for Personalized Nuclear Medicine Therapy.

Alaa Errehmane Mihoubi, Université Ferhat Abbas Sétif 1, Setif, Algeria

Therapeutic nuclear medicine relies mainly on standardized activity prescriptions derived from clinical trials, without fully accounting for inter-patient biological variability. The objective of this work is to highlight the integration of radiobiological parameters into patient specific dose calculations. Methodologically, we propose to collect individual biokinetic data, including serial measurements of activity in target and critical organs following radionuclide administration. These data allow estimation of time-activity curves and residence times, which are then combined with radiobiological models to calculate the Biological Effective Dose (BED). Parameters such as the Lea-Catcheside factor and the α/β ratio are incorporated to correct for variations in dose rate and exposure time. This approach enables the definition of BED-based tolerance limits for sensitive tissues, ensuring both therapeutic efficacy and biological safety. Preliminary analysis demonstrates that two patients receiving the same administered activity in MBq may exhibit different treatment outcomes due to variations in uptake, clearance, or α/β values. By moving beyond purely physical dosimetry, this methodology provides a more accurate representation of treatment effectiveness and supports the development of personalized and fair protocols in radionuclide therapy.

P-11 Symptomatic heterotopic Meckel's Diverticulum in an infant: The triple contribution of gastrointestinal scintigraphy(Diagnosis,Kinetics and Localization by SPECT/CT).

Sarra Guerbi, Resident in nuclear medicine, department of nuclear medicine, anticancer center, Annaba, Algeria., Dr Otmane Radja, assistant professor in nuclear medicine, department of nuclear medicine, anticancer center, Annaba, Algeria.

Introduction:

Meckel's diverticulum (MD) is the most common congenital anomaly of the gastrointestinal tract. When symptomatic, it is primarily caused by the presence of ectopic gastric mucosa, leading to low gastrointestinal bleeding (rectal bleeding) in children. Technetium-99m Perchnetate (^{99m}TcO) scintigraphy is the gold standard for detecting this metaplasia. Our case illustrates the crucial role of SPECT/CT in providing precise anatomical localization of an atypical lesion.

Case Report and Methods:

We report the case of an 11-month-old infant presenting with severe rectal bleeding (Hb = 4 g/L) and negative endoscopic findings.

Gastrointestinal scintigraphy was performed, including a dynamic acquisition, early and late static images, and a thoraco-abdominal SPECT/CT study.

Results:

The dynamic and static studies revealed a focal hyperfixation of the radiotracer, with early onset and gastric kinetics, atypically located adjacent to the right renal area. The SPECT/CT characterized this uptake as intense and situated on a small bowel loop, specifically in a subhepatic position and anterior to the right renal uptake (peri-renal right). These findings are highly suggestive of gastric metaplasia within an MD.

Conclusion:

^{99m}TcO scintigraphy remains an essential tool for the diagnosis of bleeding Meckel's diverticulum. However, the integration of SPECT/CT is crucial. It not only allows for the confirmation of the intestinal origin of the lesion (ruling out urinary or hepatic pitfalls) but, more importantly, provides the exact anatomical localization of the MD (subhepatic, small bowel loop). This precise localization is indispensable for optimizing the planning and success of the surgical procedure.

P-12 Warthin-like Variant of Papillary Thyroid Carcinoma: Histology-Driven Indications for Radioiodine Therapy in Three Cases.

Tarek Babes, R.OTMANE, Nuclear medicine Department, CHU IBN ROCHD, ANNABA, ALGERIA.

The Warthin-like variant of papillary thyroid carcinoma (WLPTC) is a rare histological subtype characterized by papillary structures lined with oncocytic cells possessing typical PTC nuclei, surrounded by a dense lymphocytic stroma. Although generally associated with favorable prognosis, we present three cases where histopathological features alone justified adjuvant radioiodine therapy (RAIT).

Case 1 (41M): Unifocal WLPTC (pT1b) with angioinvasion. Decision for RAIT (100 mCi) based solely on this histological risk factor.

Case 2 (29F): Multifocal WLPTC with lymphovascular emboli (pT1b(3m)). RAIT (100 mCi) indicated due to aggregated histological risk profile.

Case 3 (39F): Advanced multifocal carcinoma featuring WLPTC with vascular and perineural invasion combined with classical PTC with nodal metastases (pT2N1a). RAIT (100 mCi) mandated by locally advanced disease.

Conclusion:

This series demonstrates that WLPTC warrants careful histopathological evaluation. The presence of specific risk factors (angioinvasion, lymphovascular emboli, perineural invasion, multifocality, or nodal metastases) provides sufficient indication for RAIT. A histology-driven approach ensures adequate treatment for this seemingly favorable variant, with management decisions based on comprehensive pathological assessment.

P-13 Evaluation of femoral head viability by Bone scintigraphy and SPECT/CT during epiphysiolysis in adolescents: Report of Two Contrasting Cases.

A. Arrar, S. Benzerdjeb, A. Amimour

Department of Nuclear Medicine and Molecular Imaging, Bab El Oued University Hospital, University of Health sciences of Algiers .

Introduction:

Slipped capital femoral epiphysis is a disorder of adolescents during growth, defined by the progressive slippage of the capital femoral epiphysis through the growth plate. It represents the most common hip pathology at this age, with an estimated incidence of between 2 and 10 cases per 100,000 children per year. The most feared complication is avascular necrosis of the femoral head, compromising the long-term functional prognosis. In this context, bone scintigraphy coupled with SPECT/CT constitutes an essential tool, allowing early and functional assessment of the perfusion and viability of the femoral head.

Objective:

To illustrate, through two contrasting clinical cases, the value of bone scintigraphy in assessing epiphyseal viability after slipped capital femoral epiphysis.

Methods:

A three-phase bone scintigraphy combined with SPECT/CT was performed in two adolescents with left femoral epiphysis.

- Case 1: 13-year-old boy, with no previous history, presenting with mechanical pain and limp. The radiograph showed a stable, unoperated epiphysis.
- Case 2: 14-year-old boy, operated on by in situ screw fixation for left femoral epiphysis, referred for postoperative evaluation of epiphyseal viability.

The Scintigraphic analysis focused on perfusion in the early phase and metabolic uptake in the late phase, in order to assess the viability of the femoral head.

Results:

In the first patient, the examination showed homogeneous and intense uptake of the radiotracer in the early and late phases, reflecting preserved perfusion and confirming the viability of the femoral head. In the second patient, there was a decrease in vascular uptake in the early phase and reduced uptake in the late phase, suggesting avascular necrosis with loss of epiphyseal viability.

Discussion:

The assessment of epiphyseal viability is a central issue in the management of epiphysis, given the high risk of avascular necrosis, particularly in unstable forms. In our cases, bone scintigraphy combined with SPECT/CT enabled early differentiation between a viable and a non-viable femoral head. These results are consistent with the study by Song et al. (2022), which showed, based on quantitative SPECT/CT analysis, a high specificity (93.2%) but a more moderate sensitivity (66.7%) for predicting femoral head osteonecrosis. These data confirm the major value of this functional approach, which, despite its sensitivity limitations, remains a reliable tool for postoperative evaluation and follow-up.

Conclusion:

Bone scintigraphy combined with SPECT/CT represents a reference examination for the functional evaluation of the femoral head after epiphysiolysis. Its major interest lies in the early detection of bone viability, a determining parameter for monitoring progress and guiding therapeutic decisions.

P-14 Diagnostic accuracy of bone scintigraphy in the evaluation of Transthyretin cardiac amyloidosis.

S. Oumarou, S. Benzerdjeb, A. Amimour

Department of Nuclear Medicine and Molecular Imaging, Bab El Oued University Hospital, University of Health sciences of Algiers.

Introduction:

Cardiac Transthyretin amyloidosis (ATTR) is an increasingly recognized cause of heart failure in the elderly. Its diagnosis, often delayed due to non-specific clinical presentation, now benefits from non-invasive approaches allowing earlier detection. Bone scintigraphy represents a non-invasive and early diagnostic tool, constituting a reliable alternative to biopsy.

Case report:

We report the case of a 90-year-old patient presenting with progressive dyspnea and signs of heart failure. Echocardiography showed an infiltrative and restrictive cardiomyopathy suggestive of amyloidosis concentric LV hypertrophy with a granular myocardial appearance. Cardiac MRI revealed restrictive cardiomyopathy with findings suggestive of amyloidosis. The diagnosis of cardiac amyloidosis was suspected based on the clinical presentation and the suggestive findings on cardiac MRI.

The patient was referred to us for bone scintigraphy with ^{99m}Tc-HMDP, no prior preparation was required. On the day of the examination, the patient was injected intravenously with 555 MBq of ^{99m}Tc-HMDP, followed by whole-body acquisitions at early and delayed times, and thoracic single-photon emission computed tomography coupled with CT (SPECT/CT) at 3 hours after injection. Image analysis showed intense uptake in the myocardial walls, clearly higher than rib bone uptake, corresponding to Perugini grade 3.

Discussion:

^{99m}Tc-HMDP bone scintigraphy has transformed the diagnosis of cardiac transthyretin amyloidosis (ATTR), allowing non-invasive confirmation with near-absolute specificity when monoclonal gammopathy is excluded. The studies by Perugini et al. (2005) and Gillmore et al. (2016) validated the visual classification and established its clinical value. Subsequent work, notably that of Cappelli (2019) and Khor (2022), has highlighted the need for a standardized protocols and the prognostic value of myocardial uptake intensity. More recently, Suomalainen et al. have demonstrated the value of quantitative SPECT/CT, particularly of the myocardium-to-blood ratio, to enhance diagnostic accuracy. The present case illustrates the importance of considering ATTR even at an advanced age and highlights that establishing the diagnosis remains crucial to guide management and avoid inappropriate therapeutic strategies.

Conclusion:

Bone scintigraphy is a reference examination, offering high diagnostic accuracy in the non-invasive evaluation of suspected ATTR cardiac amyloidosis based on clinical and morphological findings. With its high sensitivity and specificity, it contributes to optimal patient management.

P-15 IRAThérapie dans la maladie de Basedow : expérience du service de médecine de nucléaire de HMRUO à propos de 55 cas. Radioiodine Therapy in.

ISNASNI.F(assistant en médecine nucléaire HMRUO Oran, Algérie), MAROUF Fatima Zahra(résidente en médecine nucléaire HMRUO Oran, Algérie), T.ZEHNATI (professeur en médecine nucléaire HMRUO Oran, Algérie) , L.BENHAMMOU (résidente en médecine nucléaire HMRUO Oran, Algérie), M.H.BENHAMDI (résident en médecine nucléaire HMRUO Oran, Algérie), T.BOUNAB (maitre-assistant en médecine nucléaire HMRUO Oran, Algérie), L.HOCINE (maitre-assistant en médecine nucléaire HMRUO Oran, Algérie), S.F.ELHAMERI (maitre assistante en médecine nucléaire HMRUO Oran, Algérie), M.BENRABAH (professeur en médecine nucléaire HMRUO Oran, Algérie).

Introduction :

Graves' disease is the most common cause of hyperthyroidism. It is an autoimmune disorder that mainly affects middle-aged women.

Radioiodine therapy (I-131) is a highly effective, non-invasive, and well-tolerated therapeutic option with few adverse effects.

Objective :

To evaluate the efficacy of radioiodine therapy (I-131) in the management of Graves' disease through a retrospective study conducted in our department on a series of 55 patients.

Materials and Methods:

This retrospective study included 55 patients managed in the Nuclear Medicine Department of the Regional Military Hospital of Oran between 2022 and 2024.

The majority of patients were women, aged between 9 and 67 years, with a history of Graves' disease refractory to antithyroid drug therapy for more than 18 months.

Radioiodine therapy was administered in most cases as a single oral dose of 10 mCi, followed by a clinical and biological evaluation over a period ranging from 6 to 12 months.

Results :

Among the 55 patients treated with I-131, hypothyroidism was observed after the first administration in 25 cases and following a second administration in 6 cases. Only 2 patients achieved a state of euthyroidism, while relapse of hyperthyroidism was documented in 7 cases

A significant number of patients did not complete follow-up in our center (15 patients), including 4 lost to follow-up immediately after treatment.

Discussion :

-The efficacy of radioiodine therapy in Graves' disease is well established, with cure rates comparable to those reported in the literature (80-90%).

-The hypothyroidism observed in most of our patients is considered an expected therapeutic outcome rather than a treatment failure.

Conclusion :

-Radioiodine therapy is an effective, well-tolerated, and non-invasive treatment that can provide definitive control of Graves' disease.

-In our experience with 55 cases, it achieved a high cure rate with minimal adverse effects, making it a treatment of choice, especially in recurrent or drug-resistant forms.

P-16 Predictive Factors of Radioiodine Refractory Differentiated Thyroid Cancer.

Mansouri Farouk, Nuclear medicine department, University Hospital Dr BENBADIS Constantine Algeria.

Differentiated thyroid cancers (DTC) are rare, accounting for less than 3% of all cancers, but they represent the most common endocrine malignancy. According to Globocan 2022, they rank 7th among the most frequently diagnosed cancers worldwide. In most cases, DTC carry a favorable prognosis. However, a small proportion of DTC become radioiodine refractory. These forms are resistant to radioiodine therapy and require alternative therapeutic strategies, either systemic or locoregional. Their management relies on a multidisciplinary tumor board, involving medical oncology, interventional radiology, nuclear medicine, various surgical specialties, pathology, and molecular biology. Their prognosis is bad with high mortality rate. We are reporting the results of clinical and histopathological characteristics of radioiodine refractory DTC managed in Nuclear Medicine Department, University Hospital Dr. Benbadis, Constantine, over a six-year period.

P-17 18F-FDG PET/CT in the Diagnosis of Lipomatous Hypertrophy of the Interatrial Septum: A Case Report.

Rihem Mehri, Nuclear Medicine Department, Sahloul University Hospital, Tunisia, A.Bettaieb, R.Ghannem, J.Charfi, K.Chatti, Nuclear Medicine Department, Sahloul University Hospital, Tunisia

Introduction:

Lipomatous hypertrophy of the interatrial septum (LHIS) is a rare benign cardiac condition, characterized by excessive fat accumulation in the interatrial septum. It is usually asymptomatic but may occasionally be associated with conduction disturbances or arrhythmias.

Materials and Methods:

We report the case of a 60-year-old patient who underwent 18F-FDG PET/CT to characterize a retroperitoneal soft tissue mass.

Results:

Besides the hypermetabolic retroperitoneal mass involving the celiac trunk, PET/CT unexpectedly demonstrated a hypermetabolic focus in the interatrial septum (SUVmax = 5), corresponding to a fat-density lesion on CT, strongly suggestive of LHIS. Cardiac MRI was recommended to confirm the benign nature of the lesion.

Conclusion:

FDG uptake in LHIS is thought to result from the presence of metabolically active brown adipose tissue. However, this uptake may mimic primary or secondary cardiac malignancy, particularly in an oncologic context. Accurate diagnosis requires multimodality correlation (using CT, cardiac MRI, or transesophageal echocardiography) to confirm the fatty nature of the lesion. Such an approach is crucial to prevent overstaging and inappropriate treatment.

P-18 Preventing Osteoradionecrosis in Radiotherapy Patients: A Focus on Radioprotection Strategies.

Mama Bouchaour, Faculty of Sciences, Tlemcen, Algeria,

I. Azzouni; Faculty of medicine, Tlemcen, Algeria

L. Merad; Faculty of Sciences, Tlemcen, Algeria,

N. Chiali; Faculty of Medicine, Oran, Algeria

K. Kheche; Faculty of Sciences, Tlemcen, Algeria

F. Lallam; Faculty of Sciences, Tlemcen, Algeria

Introduction:

Osteoradionecrosis (ORN) of the jaw is a severe and debilitating complication that can arise, albeit rarely, in patients undergoing radiotherapy for head and neck cancers. This condition poses significant challenges in medical and radiological practices due to its impact on patients' quality of life and the complexity it adds to treatment safety. Our study aims to emphasize the vital need for preventive measures to mitigate ORN risk while improving patient care.

Methods:

The study combined two approaches: a theoretical review based on a wide range of bibliographic sources, including scientific publications, clinical guidelines, and hospital data; and a practical qualitative investigation through a survey of patients who had undergone cervicofacial radiotherapy. This dual approach aimed to identify the mechanisms behind ORN and explore prevention strategies that could enhance care quality and radioprotection.

Results:

Analysis revealed multiple factors contributing to ORN development, ranging from treatment-related radiation dosage to patient-specific vulnerabilities. Patients' experiences highlighted the necessity of thorough oral health management before, during, and after radiotherapy. The study identified preventive actions such as rigorous dental care, optimized radiation planning, and patient education as key to reducing ORN incidence.

Discussion and Conclusion:

Our findings underline that preventing osteoradionecrosis requires a coordinated, multidisciplinary approach combining medical, dental, and radiological expertise. Building effective prevention protocols not only lowers the risk of ORN but also significantly improves patients' quality of life and treatment outcomes. The study advocates for continuous refinement of radioprotection measures and patient-centered care to ensure safer and more effective cancer treatment.

P-19 Parathyroid Gland Abnormality Detection in Scintigraphy Using a ConvNeXt-Based Multimodal Deep Learning Framework.

Ines Aouria

[1]University of Kasdi Merbah Ouargla(UKMO) ,Faculte de Nouvelles Technologies for Information and Communication, Electrical Engineering Laboratory (LAGE), Ouargla Route de Ghardaia,BP 511,30000, Algeria.

[2]FEMTO-ST institute, University of Franche-Comt ´ e, CNRS, SUPMICROTECH-ENSMM, 25000 Besan , con, France.

[3]CHU Bab El Oued Department of Nuclear Medicine Algiers, Algiers.

aouria.ines@univ-ouargla.dz, benarabi.bilal@univ-ouargla.dz, toubakh.houari@univ-ouargla.dz, noureddine.zerhouni@ens2m.fr ,a.amimour@univ-alger.dz,

docteurtalbi.abdelkrim@gmail.com

Introduction:

Accurate detection of abnormal parathyroid glands is essential for the management of primary hyperparathyroidism. Nuclear medicine imaging, with dual-phase and dual-tracer scintigraphy MIBI scintigraphy combined with TcO4 thyroid scans, is a standard technique due to its ability to differentiate between normal and hyper-functioning parathyroid tissue. However, its interpretation is time-consuming and subject to inter-observer variability. Recent advances in artificial intelligence, especially Deep learning, have shown strong potential in medical image analysis by automatically extracting discriminative features. This study aims to develop a multimodal ConvNeXt-based deep learning framework to improve the classification of parathyroid abnormalities from scintigraphic images.

Materials and Methods:Materials and Methods: A dataset of 192 patients, collected at Bab El Oued Hospital (Algiers), was used. Each patient had three images (MIBI early-phase, MIBI late-phase, and 99mTcO4 thyroid scans). The patients' ages ranged from 40 to 80 years. Each case was labeled as normal or abnormal by the nuclear medicine specialists. A three-branch ConvNeXt-Tiny model was designed, where each modality (early MIBI, late MIBI, TcO4) was processed independently through ConvNeXt with global average pooling (GAP) to extract features. The resulting vectors were concatenated and passed through a fully connected classifier to predict normal vs abnormal. To overcome the relatively small dataset size and improve model generalization, we applied extensive data augmentation. For each original image, three additional versions were generated using geometric transformations (rotation, flipping, scaling) and intensity variations. The dataset was then divided into training (80%) and validation (20%) subsets. Training was conducted using the Adam optimizer (learning rate 1e-4) over 10 epochs. Model performance was evaluated in terms of accuracy, precision, recall, and F1-score.

Results: The proposed three-branch ConvNeXt-Tiny framework achieved a classification accuracy of 93%. For the normal class, the model reached a precision of 0.97, a recall of 0.92, and an F1-score of 0.95, whereas for the abnormal class, it obtained a precision of 0.85, a recall of 0.94, and an F1-score of 0.90. Analysis of the confusion matrix demonstrated correct identification of 96 out of 104 normal cases, and 47 out of 50 abnormal cases, with a limited number of misclassifications.

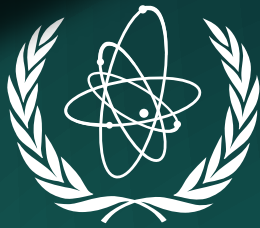
Conclusion: The ConvNeXt-based multimodal deep learning framework demonstrated excellent performance in detecting parathyroid abnormalities from scintigraphic imaging. These findings highlight the potential of advanced deep learning architectures for clinical decision support in nuclear medicine, helping to reduce workload while ensuring that nuclear medicine expertise remains indispensable.

References:

Z. Huang and C. Lou, "99m TcO4- /99m Tc-MIBI dual-tracer scintigraphy for preoperative localization of parathyroid adenomas," J. Int. Med. Res., vol. 47, no. 2, pp. 836–845, Feb. 2019, doi:

10.1177/0300060518813742/.P. Petranović Ovčariček et al., "The EANM practice guidelines for parathyroid imaging," Eur. J. Nucl. Med. Mol. Imaging, vol. 48, no. 9, pp. 2801–2822, Aug. 2021, doi:

10.1007/s0025905334--021-y.I. D. Apostolopoulos, N. D. Papatthanasiou, and D. J. Apostolopoulos, "A Deep Learning Methodology for the Detection of Abnormal Parathyroid Glands via Scintigraphy with 99mTc-Sestamibi," Diseases, vol. 10, no. 3, p. 56, Aug. 2022, doi: 10.3390/diseases10030056.



IAEA



COMENA

ICON 25

ALGIERS INTERNATIONAL CONFERENCE ON NUCLEAR MEDICINE

SPONSORS

DIAMOND



PLATINIUM



GOLD



SILVER



BRONZE

