

**CTE Session 2**

Technologists Committee

Sunday, September 10, 09:45 – 11:15

Session Title**Head and Neck Molecular Imaging – Updates and Perspectives****Chairpersons****Agata Karolina Pietrzak** (Poznań, Poland)**Christopher Bruneby** (Kristianstad, Sweden)**Programme**

09:45 – 10:15 **Witold Cholewiński** (Poznań, Poland): Head and Neck Molecular Imaging – State of the Art

10:15 – 10:45 **Paolo Turco** (Padova, Italy): Head and Neck Cancer Patient Management Using the PET-MRI Method

10:45 – 11:15 **Giancarlo Gorgoni** (Verona, Italy): New Radiopharmaceuticals for Head and Neck Tumours Evaluation and Therapy

Educational Objectives

1. Outline the Head and Neck region molecular imaging state of the art, considering available guidelines and recommendations.
2. Present clinical applications, possible artefacts, and pitfalls of the Head and Neck region diagnosis using the PET-MRI method.
3. Characterize the Head and Neck PET-MRI radiotherapy planning protocol.
4. Describe the radiopharmaceuticals useful for the Head and Neck region malignancies diagnosis and therapy, focusing the attention on the newest markers.

Summary

Nuclear Medicine Imaging is an inevitable element of the standard pathway in the Head and Neck oncological patients' diagnostic and therapeutic management. For years, the 18F-FDG PET-CT method has been considered a technique of choice in the Head and Neck region malignancies detection, staging, restaging, therapy planning, and treatment effectiveness evaluation. Multiple guidelines, international recommendations, and a comprehensive literature discussed the best solutions, golden standards, and acquisition protocols in efforts to improve the available methods' sensitivity, specificity, and diagnostic accuracy in each stage of Head and Neck pathologies management as the Head and Neck region malignant lesions occurrence seems to be constantly increasing worldwide.

Recently, the scientific literature focused on PET-MRI applications in the Head and Neck region tumours diagnosis. Although the obtained results and conclusions provided by the Authors can be considered initial and demanding further investigation, the first potential PET-MRI utilities have been already reported.

Not only methods, but also new markers create an extraordinary opportunity to improve molecular imaging value in various stages of the Head and Neck region diseases' diagnosis. From 18F-FDG to PEGylated liposome-encapsulated 188Re, radiotracers have been developed to provide sufficient knowledge about the disease and support the therapeutic protocol. Constantly emerging Nuclear Medicine solutions follow modern diagnosis and therapy.



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SEPTEMBER 9 - 13, 2023

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Key Words

Head and Neck, Magnetic Resonance Imaging, Molecular Imaging, Oncology, Positron emission tomography, Radiopharmaceutical