

Joint Symposium 18

Oncology and Theranostics Committee / Arbeitsgemeinschaft Internistische Onkologie (AIO)

Thursday, October 29, 13:30-15:00

Session Title

Imaging Tumour Microenvironment

Chairperson

Jens Siveke (Essen, Germany)

Programme

13:30 - 13:59 Marija Trajkovic-Arsic (Heidelberg, Germany / AIO): The Clinical Relevance of Tumour Microenvironment in Solid Tumours

13:59 - 14:28 Sandra Heskamp (Nijmegen, Netherlands): Imaging Cellular Components of the Tumour Microenvironment

14:28 - 14:57 Tim Witney (London, United Kingdom): Imaging Metabolic Components of the Tumour Microenvironment

Educational Objectives

1. Understand the clinical relevance of the tumour microenvironment in solid tumors
2. Understand the role of imaging of cellular components in the tumour microenvironment
3. Understand the role of imaging of metabolic components in the tumour microenvironment

Summary

The tumour microenvironment plays a key role in determining response to anti-cancer treatment. During this joint session we will discuss the clinical relevance of the tumour microenvironment in solid tumors. Furthermore, we will discuss cellular and metabolic components in the tumour microenvironment which are relevant targets for imaging purposes.

The development of novel PET radiotracers has revealed new insights into the metabolic pathways that contribute to tumour transformation and progression. Through imaging, we have shown that: **1)** tumours store potential energy as glycogen, the extent of which is sensitive to cell cycle arrest and tumour quiescence; **2)** imaging pyruvate kinase M2, the rate-limiting enzyme in tumour glycolysis, enables the preclinical detection of orthotopically growing human glioblastoma; and **3)** the measurement of tumour redox status is now achievable, with implications for both therapy response and prediction of resistance.

Key Words

Cancer, tumour microenvironment, tumour metabolism, immune cells, imaging