

Joint Symposium 25

Neuroimaging Committee / European Association of Neuro-Oncology (EANO)

Friday, October 30, 13:50-15:20

Session Title

Immunotherapy in Brain Tumors

Chairperson

Marcus Unterrainer (Munich, Germany)

Programme

13:50 - 14:19 Michael Weller (Zurich, Switzerland / EANO): Immunotherapy of Gliomas

14:19 - 14:48 Emilie Le Rhun (Lille, France): Immunotherapeutic Options in Brain Metastases

14:48 - 15:17 Norbert Galldiks (Cologne, Germany): PET Imaging of Response to Immunotherapy in Brain Tumours

Educational Objectives

1. to obtain a basic understanding of the underlying mechanisms and the current state of cancer immunotherapy in patients with glioma
2. to obtain a basic understanding of the underlying mechanisms and the current state of cancer immunotherapy in patients with brain metastasis
3. to learn about the diagnostic value of PET imaging in the assessment of response to immunotherapy and the challenges of MR imaging after immunotherapy in patients with brain tumours

Summary

Cancer immunotherapy hasn't been a hot topic just since James Allison and Tasuku Honjo were awarded the Nobel Prize in Physiology or Medicine in 2018 for their notable work on immune checkpoint therapy. The fast progresses in the field over the last two decades have rapidly made immunotherapy a critically important and validated weapon in the fight against cancer. Vast research and clinical investigation efforts dedicated to the complex interactions between cancer and the immune system have led to various implementable immunotherapy approaches such as oncolytic viruses, cancer vaccines, adoptive cell transfer, immune checkpoint inhibitors and other immune-based therapies, which represent a substantial enrichment in the therapeutic arsenal for treating patients with oncological diseases.

Brain tumour patients used to be dogmatically excluded from those innovations, as the adaptive immunity of the brain was thought to prohibit immunotherapeutical approaches. Recent discoveries in the immunobiology of the brain have led to an altered paradigm and reversed the concept of strict "immune privilege" of the brain, thus resulting in increasing implementation of immunotherapeutic strategies into clinical practice in neurooncology as well. However, the differing immunologic landscape of the brain make immunotherapy in brain tumours still a difficult task facing profound challenges including, inter alia, well adapted imaging strategies.

This session reflects the emerging immunotherapeutic options for patients with brain tumours and the associated challenges. The first talk gives account of the combined efforts of basic researchers and clinicians in the field of immunotherapy of gliomas. The second talk provides an overview on the progresses in immunotherapy of brain metastases. The third talks concludes with an outline of imaging immunotherapy of brain tumours and highlights the role of advanced imaging approaches including PET imaging.

Key Words

Immunotherapy, gliomas, brain tumours, brain metastases, response assessment, PET, MRI