Session: 750 - TEACHING COURSE - NEURO-ONCOLOGY (WFN/SOCIETY OF NEURO-ONCOLOGY JOINT SESSION): CURRENT TOPICS IN NEURO-ONCOLOGY 04.10.2021, Monday, 17:25 - 18:55: #476

Neurologic Consultations in Cancer Patients

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Learning Objectives: Attendees will be able to:

- 1) Formulate an approach to the confused oncologic patient, making judgements about whether the MRI scan explains the clinical picture or whether further diagnostic tests such as LP/EEG are required and about appropriate choice of anti-epileptic drugs in the setting of cancer
- 2) Recognize the multiple neurologic adverse effects of tacrolimus and other oncology drugs as well as the multiple radiographic appearances of posterior reversible encephalopathy syndrome (PRES) in hematopoietic cell transplant recipients
- 3) Evaluate acute stroke in a cancer patient with specific attention to differential diagnosis and management with anticoagulation in the setting of cytopenias
- 4) Address the long-term neurologic complications of cancer therapy in survivors, including stroke-like migraine after radiation therapy (SMART), vascular disease, infections, second tumors, and nutritional deficiencies

Key Message

- Neurologic consultants require multiple skills to assist in the diagnosis and management of cancer patients in an increasing variety of neurological situations. An organized approach to broad categories of neurological syndromes will facilitate timely intervention that can greatly impact the patients' quality of survival. This problem-based talk emphasizes the following 3 common categories of consultative problems:
- 1) The confused oncology patient without focal deficit or deficit unexplained by MRI (entities covered: carcinomatous meningitis, seizure management, tacrolimus toxicity, posterior reversible encephalopathy syndrome)
- 2) Sudden onset focal deficit in a cancer patient (differential diagnosis of stroke, anticoagulation issues, occult cancer in stroke patient)
- 3) Long-term sequelae of cancer treatment (SMART syndrome, vascular complications, infectious complications including drugs associated with progressive multifocal leukoencephalopathy (PML), second cancers, Wernicke's encephalopathy

References

- TEXTBOOK: Neuro-Oncology for the Clinical Neurologist. Strowd Roy E, ed. Elsevier Philadelphia, 2021.
- Pellerino A et al Complete response of spinal metastases (leptomeningeal and intramedullary) in ALK-rearranged NSCLC. Neurology 2019;93:217-219.
- Rosenberg J et al. D-dimer and body CT to identify occult malignancy in acute ischemic stroke. Journal of Stroke and Cerebrovascular Diseases, Vol. 29, No. 12 (December), 2020
- Key NS et al. J Clin Oncol 2019;38: 496. ASCO recommendations
- Pruitt AA: CNS infections in patients immunocompromised by cancer and other conditions, Continuum.2018;24:1370-96..
- Black DF et al Stroke-like migraine attacks after radiation therapy (SMART) syndrome is not always completely reversible: a case series. AJNR Am J Neuroradiol 2013;34:2298-2303.
- Cortese I et al Progressive multifocal leukoencephalopathy and the spectrum of JC virus-related disease. Nature Rev Neurol 2020.

Additional References for Immune Checkpoint Inhibitors

Marini A et al. Neurologic adverse events of immune checkpoint inhibitors. Neurology 2021;96:764-766.

McFaline-Figueroa JR, Lee EA Neurological complications of targeted therapies and immunotherapies for cancer. Curr Treat Options Neurol 2021;23:9 epub 15 Feb 2021.

Dubey D et al. Severe neurological toxicity of immune checkpoint inhibitors: growing spectrum. Ann Neurol 2020;87:659-669.

Velasco R et al. Encephalitis induced by immune checkpoint inhibitors. A systematic review JAMA Neurol 2021;78(7):865-873.