risk, while SRT and HT were not capable of evaluate for fracture risk stratification in our study, reinforcing the need for QUS for screening in large populations. Having strength and functional ability did not eliminate the need for investigation.

Neuroendocrinology and Pituitary

PITUITARY AND NEUROENDOCRINE CLINICAL TRIALS AND STUDIES

Opportunistic Assessment of Pituitary Gland with Routine MRI and PET/CT Can Guide in Earlier and Increased Identification of Hypophysitis in Patients Treated with Combination Checkpoint Inhibitors

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OR32-06

Background: Hypophysitis is one of the commonly reported adverse events related to immune checkpoint inhibitors (ICI), and the incidence is expected to rise with increased use of combined programmed cell death protein 1 (PD1) and cytotoxic T lymphocyte associated protein 4 (CTLA4) blockade. The clinical diagnosis can be delayed due to non-specific symptoms. At our centre, subjects undergo periodic imaging to assess tumour response to ICI. We reviewed whether neuroimaging studies can guide us in the diagnosis of hypophysitis and whether early changes can be detected before the onset of the clinical syndrome. Methods: We retrospectively reviewed the medical charts, biochemistry, structural brain imaging and whole-body positron emission tomography (PET) with specific reference to hypophysitis in 162 patients treated with combination ICI at a tertiary melanoma referral centre. Suspected cases were identified based on meeting one or more of the following criteria: 1) A documented diagnosis of hypophysitis or pituitary dysfunction found on chart review, 2) A relative change in pituitary size or appearance from baseline on neuroimaging studies, or 3) An increase in pituitary maximum standardized uptake value (SUVmax) greater than 25% from baseline on ^{18}F-FDG PET. Results: 58/162 patients (36%) met criteria for suspected hypophysitis. Only 4 patients were identified on routine screening of early morning cortisol. 14 patients presented with symptoms leading to biochemical work up. A further 40 patients were found to have suspicious imaging changes, 13 of which went on to receive a formal diagnosis of hypophysitis. Of the remaining 27 patients, 23 were receiving high dose glucocorticoids for concomitant immune related adverse events at the time of the abnormal imaging study.Conclusion: We report the highest incidence to date of suspected hypophysitis in cohort of patients treated with combination ICI. This study highlights the important role of structural and functional neuroimaging in the early recognition of hypophysitis. Imaging may also play a role when the clinical syndrome is masked by concurrent glucocorticoid use.

Neuroendocrinology and Pituitary

CASE REPORTS IN UNUSUAL PATHOLOGIES IN THE PITUITARY II

Hyperprolactinemia: An Unusual Initial Presenting Manifestation of Multiple Sclerosis

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MON-258

Hyperprolactinemia and multiple sclerosis (MS) have a direct relationship and hyperprolactinemia may precede clinical signs of MS as a heralding manifestation of disease. Prolactin has significant pro-inflammatory effects in addition to its lactotrophic properties and can also lower the body's immune tolerance, inducing autoimmunity. High levels of prolactin have been thought to contribute to the inflammation of multiple sclerosis. However, elevated levels of prolactin, especially in pregnant women, can be protective for MS patients and induce remission. Prolactin is neuroregenerative and stimulates the precursors for oligodendrocytes, the cells responsible for myelination. Our hypothesis is that an elevated prolactin level detected during an MS flare should not be treated with dopamine agonist, but rather allowed to decrease as the MS improves with treatment.

Case Presentation

A 24 year old woman with a history of marijuana use is referred to our clinic for elevated prolactin levels associated with galactorrhea for 3 months duration. In addition to marijuana use, patient was also sexually active and having regular menses, with menarche at age 11 years old. On physical exam, the patient was found to have bilateral nipple discharge with stimulation, and visual fields were intact to confrontation. At the time of referral, the patient's prolactin was 92.3 ng/dL (4.8–23.3 ng/mL) TSH was normal, and pregnancy test negative.An MRI showed multiple areas of enhancement compatible with active demyelination, concerning for multiple sclerosis. The pituitary gland was enlarged, without evidence of adenoma. A follow up prolactin level was 101 ng/dL and upon further discussion, patient also admitted to some "funny feeling" and weakness in her right hand and a feeling of being "off balance" diagnosed as a left ear infection. Patient was advised to seek urgent treatment for multiple sclerosis. She was admitted, where she was seen by neurology and diagnosed with relapsing remitting multiple sclerosis. She was initially treated with a course of IV methylprednisolone. She was discharged after this course and followed with neurology as an outpatient. For a few months our patient went into remission and her prolactin improved to 24 ng/dL. A few months later, she had a significant increase in her prolactin to 71.5 ng/dL accompanied by evidence of disease progression on MRI and symptoms of weakness