performed for symptomatic improvement but was complicated with the development of central diabetes insipidus. Pathology report disclosed metastatic pituitary carcinoma, compatible with primary lung carcinoma. Following surgical resection and radiation therapy to the pituitary gland, the patient remains stable and is currently tolerating all treatment. **Conclusion:** In a patient with occult malignancy, pituitary metastasis is an exceedingly rare and challenging diagnosis that carries a poor prognosis. The purpose of this abstract is to raise clinical suspicion for sellar metastasis in a patient presenting with hypopituitarism and cranial nerve palsy.

Neuroendocrinology and Pituitary

NEUROENDOCRINOLOGY AND PITUITARY CASE REPORTS

Hypopituitarism as the Initial Presentation of Pituitary Metastasis From Lung Cancer

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Introduction: The annual incidence of hypopituitarism 4.2 cases of 100,000. Causes include primary tumor, metastasis, and non-tumor causes such as radiation therapy, infiltrative lesions, infection, and traumatic brain injury. Metastatic pituitary tumors constitute about 7-9% of the cases, with lung and breast cancers are the most common primary tumors.
Case Presentation: 48-year-old Caucasian female patient with 30 pack-year smoking history presented to the emergency department with abdominal pain, diarrhea, fatigue, and headache. Review of systems was significant for loss of appetite, left eye visual field defect, anorexia, cold intolerance, and shortness of breath. Physical examination was remarkable for decreased visual acuity. Vital signs notable for hypotension BP 92/63. Notable labs include glucose of 53 mg/dL, TSH 0.50 [0.49 - 4.67 uIU/mL], low free T4 0.52 ng/dL, low FSH 1.3 mIU/ml, low LH <0.2 mIU/ml, low ACTH 1.4 pg/mL, low morning cortisol 2.2 ug/dL, low DHEA-SO4 3ug/dL, low IGF-1 16 ng/ml. She was diagnosed with hypopituitarism and started on IV hydrocortisone 50 mg every 6 hours with 75 mcg levothyroxine daily. MRI brain showed interval growth of pituitary lesion into the suprasellar cistern with a mass-effect on the optic chiasm measuring 2.4 X1.6X 1.9 cm with a lesion in the right cerebellar hemisphere. Vertebral MRI showed multiple metastatic lesions in cervical/thoracic/lumbar vertebral bodies. On day two of hospital stay, she developed hypertonic hyponatremia (sodium 156 mmol/L, urine osmolarity 81 mOsm/kg, plasma osmolarity 328 mOsm/kg), and she was started on desmopressin 2 mg IV for diabetes insipidus. CT chest showed spiculated left upper lobe mass consistent with primary malignancy, and biopsy showed metastatic poorly differentiated epithelial malignancy likely from lung primary. Patient was discharged on desmopressin 100 mcg nightly, hydrocortisone 20 mg morning with 10 mg evening, levothyroxine 100 mcg daily with plans for further oncologic workup.
Discussion: Patient's 2011 MRI brain showed a mildly enlarged pituitary gland. MRI brain two months before admission showed a pituitary gland diameter of 1.6 cm, while an MRI at presentation showed a pituitary gland size of 2.4 cm with a new cerebellar lesion. She reported symptoms of nausea, vomiting, and weakness for more than one year ago but biochemical testing was not performed. The fact that the patient had pituitary enlargement eight years ago likely delayed the diagnosis of pituitary metastasis. Patient age precluded lung cancer screening despite smoking history and family history of lung cancer.
Conclusion: Symptomatic patients with pituitary enlargement on brain imaging may benefit from a close follow-up and biochemical testing for early diagnosis and treatment, especially if they have risk factors for malignancy.

Neuroendocrinology and Pituitary

NEUROENDOCRINOLOGY AND PITUITARY CASE REPORTS

Hypothalamic Dysregulation; A Hidden Culprit in Multiple Sclerosis Symptoms

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Background: A possible association between multiple sclerosis (MS) and dysregulation of hypothalamic-pituitary axis has been reported and its endocrine manifestations can be confused with many nonspecific symptomatology attributed to MS. We report such a case and present the improvement of symptoms independent of MS therapy.
Clinical Case: Case of a 45 years-old female with history of type 2 diabetes mellitus, dyslipidemia, HTN, obesity class I and MS that was evaluated for follow up with complaints of fatigue, weakness, somnolence and memory problems. No menstrual disturbances with regular cycles. Denies weight changes, anorexia, nausea, vomiting or abdominal discomfort. Previous hormonal workup showed normal levels of cortisol, ACTH, prolactin and TSH. Nonetheless, on repeated hormonal profile due to nonspecific complaints, patient was found with normal TSH (2.65 mIU/mL, 0.3-3.0 mIU/mL) and low free T4 (0.65 ng/dL, 0.78-2.19 ng/dL). Repeated thyroid function tests by equilibrium dialysis showed a borderline low FT4 (0.8 ng/dL, 0.78-2.19 ng/dL), despite a persistently normal TSH (2.26 mIU/mL, 0.3-3.0 mIU/mL). Suspecting hypopituitarism, a complete hormonal workup revealed a low normal serum cortisol in early morning of 8.39 mcg/dL and ACTH of 16.7 pg/mL, normal prolactin of 10.5 ng/mL and a first IGF-1 evaluation of 68.9 ng/mL, which was low for female age range (98-261 ng/mL). Due to concerns for possible complications during an insulin tolerance test, a cosyntropin stimulation test was performed with adequate peak cortisol response at 30.5 mcg/dL. Most recent brain MRI without pituitary protocol was remarkable for multiple bilateral demyelinating plaques compatible with MS diagnosis that also involved