Pan-hypopituitism as the first manifestation of lung cancer
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Introduction: Metastatic spread of lung cancer to the pituitary gland is relatively common and generally observed in an advanced stage of the disease and at autopsy. However, hypopituitism as the first manifestation of lung cancer is extremely rare, with only 5 reports in the literature. We describe an unusual case of small-cell lung cancer presenting with pan-hypopituitism secondary to pituitary metastasis.

Case report: A previously healthy 76 year old man was admitted with three- week history worsening headache and lethargy. He also reported polyurea and polydypsia for several months prior to admission. His physical examination was unremarkable. Investigations revealed normal U/E, LFT & FBC with raised ESR 104 mm1st hr (0 - 5); pituitary function tests showed undetectable serum cortisol level, <30 nmol/L (280-700), low TSH <0.3 mIU/L (0.4 - 4.0), fT3 3.0 pmol/L (3.2 - 5.9), fT4 9.3 pmol/L (10.6 - 21.0), LH <0.2 IU/L (2.2-13.3), FSH 0.4 IU/L (1-7), and Testosterone 0.7 nmol/L (6.3-26.3), with normal serum prolactin and IGF1 levels. Paired serum and urine osmolalities were 287 mOsm/Kg (275 - 295) and 167 mOsm/Kg respectively. Diagnosis of central diabetes insipidus was confirmed by water deprivation test. He was treated with L-thyroxine, hydrocortisone, testosterone and DDAVP spray. MRI pituitary revealed a solitary mass in the pituitary fossa with pituitary stalk thickening. CXR showed round opacity in the left costophrenic angle. CT chest confirmed presence of 5.5 cm mass in the left lower lung with multiple liver metastases. Ultrasound guided liver biopsy revealed small cell (neuroendocrine) carcinoma, in keeping with metastasis from a lung primary. He has been referred to an oncologist, and is currently being treated with chemotherapy.

Comment: This case illustrates an uncommon presentation of small-cell lung carcinoma and highlights the need for considering metastatic disease in patients with pituitary tumours, particularly when associated with diabetes insipidus.