ECTOPIC ACTH SECRETION WITH CONCOMITANT HYPERAMYLASEMIA IN A PATIENT WITH SMALL CELL LUNG CARCINOMA: CASE REPORT

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SUMMARY – Histologically confirmed small cell lung cancer associated with Cushing's syndrome and elevated amylase is rarely described in the literature. We present a case of a 63-year-old patient admitted to cardiology department due to shortness of breath, exhaustion, palpitations and nausea. Elevated values of troponin and electrocardiography suggested that he could have acute coronary syndrome. According to the radiologist's opinion, plane lung radiography was normal. Elevated level of amylase was found in both serum (3802 U/L, normal range 28-100) and urine (12012 U/L, normal range 0-450 U/L), as well as elevated sodium (156 mmol/L, normal range 137-147 mmol/L), hyperglycemia (12 mmol/L, normal range 3.8-6.1 mmol/L) and lowered serum potassium (1.7 mmol/L, normal range 3.5-5.3 mmol/L). Computerized tomography (CT) of the abdomen revealed a tumor of the left adrenal gland and enlargement of the right adrenal gland with normal structure of the pancreas. During hospitalization, the patient had blood while coughing and CT scan of the lungs showed a tumor 48x38x51 mm in size localized in the laterobasal segment of the left lung with mediastinal lymphadenopathy. He also had bilateral pleural effusions with signs of pulmonary embolism, which explained elevated troponin values. Biopsy confirmed microcellular lung carcinoma and tumor cells were diffusely positive for TTF-1 and focally for CK7, expressing markers of neuroendocrine differentiation (chromogranin +++, synaptophysin +++, NSE ++). Since neuroendocrine tumor was confirmed and the patient had low potassium and high glucose, hypercortisolism was suspected. High morning cortisol (1784 mmol/L, normal range 171-536) and unsuppressed ACTH (214 pg/L, <60), as well as a high level of chromogranin (1339 μg/L, <65) were determined. During hospital stay, the patient developed heart and respiratory failure and died in the second week of hospitalization.

Key words: *Small cell lung carcinoma; Adrenocorticotropic hormone; Hyperamylasemia; Case reports*

Introduction

Small cell lung cancer (SCLC) is a neuroendocrine carcinoma that exhibits aggressive behavior, rapid growth, early spread to distant sites, exquisite sensitivity to chemotherapy and radiation, and frequent association with distinct paraneoplastic syndromes, including hypercalcemia, Eaton-Lambert syndrome, syndrome of inappropriate diuretic hormone, and many others.

Ectopic adrenocorticotropic hormone (ACTH) secretion was the first paraneoplastic endocrine syndrome described in the literature. The most common tumors associated with ectopic ACTH production are small cell lung cancer and atypical carcinoids[1]. The

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