Ectopic ACTH syndrome (EAS) - diagnostic and therapeutic challenge

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Introduction:
Rapid deterioration of health condition in patient with diagnosed neoplastic disease, especially metastatic one, requires consideration of cancer progression. However other rare severe complications may occur. In 0.6-0.7% patients with medullary thyroid cancer (MTC) the ectopic ACTH syndrome (ECS) is observed. Hereby, we present a case of ECS in patient with MTC.

Case report

A 37-year-old man was admitted to the Department of Internal Medicine in serious clinical condition with general fatigue and chest pain. Myocardial infarction has been excluded. Patient’s past medical history was remarkable for medullary thyroid carcinoma with numerous recombinations. Routine laboratory test showed de novo diabetes mellitus. Calcitonin serum level was 499.5 pg/ml (N 0-10 pg/ml). Additional tests revealed severe hypercortisolemia (cortisol level - 2100 nmol/l) (N 7-10 am: 171-536 nmol/l).

The patient was referred to the Department of Endocrinology for further diagnostics and treatment. ACTH level was 329.0 pg/ml (N<60.0). There was no suppression of cortisol secretion after 1 mg of Dexamethasone. Magnetic resonance imaging (MRI) of the pituitary gland showed no signs of macro or microadenoma. Computer tomography (CT) of the chest revealed metastasis to the mediastinum lymph nodes. The adrenal glands in CT were normal size and shape. The EAS was diagnosed.

Conclusions

The EAS is a rare condition in patients with medullary thyroid cancer (MTC), but our patient’s history indicates necessity of intensive search for EAS in case of advanced MTC, especially in rapid health deterioration.