

HUMAN CHORIONIC GONADOTROPIN-INDUCED HYPERTHYROIDISM IN GERM CELL TUMOR: A CASE PRESENTATION

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Introduction - Purpose : Human chorionic gonadotropin (hCG)-induced hyperthyroidism represents a rare paraneoplastic syndrome in hCG-secreting testicular cancer. In most cases, this hyperthyroidism remains subclinical. hCG belongs to the family of glycoprotein hormones with structural homology to thyroid- stimulating hormone (TSH). The thyrotropic potency and thereby the degree of cross reactivity of hCG is determined by several factors, such as content of sialic acid or lack of the C-terminal tail. In the absence of clinical signs of hyperthyroidism, treatment usually consists of specific antitumor therapy which will result in normalization of thyroid function if hCG declines. Where there are clinical signs of hyperthyroidism, overlapping thyreostatic treatment is recommended

Findings : Here, I report of a 24 years-old young man presenting clinical and biochemical signs of hyperthyroidism at the time of diagnosis of non-seminomatous germ cell cancer (teratoma, yolk sac tumor and choriocarcinoma). Beta-hCG initially exceeded 225,000 mIU/ml and other causes of hyperthyroidism was excluded. His TSH level was 0.01 μ IU/mL and fT4 was 2.04ng/dL. Interestingly he was examined for palpitation one month before he had been diagnosed as testis cancer. At that time TSH and fT4 level were 1.61 μ IU/mL and 1.19ng/dL respectively, which were normal. Furthermore he was undergone a surgery for one metastatic focus in his cerebellum as severe increased intracranial pressure. Because he was symptomatic for hyperthyroidism he was started thyreostatic treatment beside anticancer BEP regimen. He's got first course of BEP chemotherapy yet.

Discussion : An excess of human chorionic gonadotropin (hCG) is a rare differential diagnosis of hyperthyroidism, due to the TSH-like effect of hCG. In this case overt hyperthyroidism with tachycardia is one of the presenting symptom and biochemical confirmation of this clinical situation takes about one month. hCG cut off level that cause induction of thyroid leading to hyperthyroidism is not known. It is recommended to keep in mind that testicular germ cell tumors can lead to hyperthyroidism. So that reason in case of suspicion it is better to check TSH level.

Keywords: germ cell tumor, hCG, hyperthyroidism