A case of thyroid hemiagenesis diagnosed after essential tremor symptoms

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Background: Essential tremor (ET) is a neurological disorder causing involuntary rhythmic tremors (4–12 Hz) and mostly seen in adults of age 40 or more. ET is a clinical diagnosis and is commonly seen ipsilaterally, worsens with movement and usually hands are involved initially. Physical and emotional stress, fatigue, low blood glucose level, alterations in temperature, caffeinated drinks may trigger the condition. ET is not a life threatening condition but if the symptoms are severe, it may affect the quality of life. Thyroid hormone is mainly required for growth and the development of organs including brain and skeletal systems. Thyroid hemiagenesis (TH) is a rare, congenital disorder characterized by non-development of a lobe of the thyroid gland.

Case: A 23 year old female patient having bilateral tremor for approximately 10 years, intensifying with motion presented to the neurology outpatient clinic for the very first time. Muscle tone and strength, deep tendon reflexes, sensual examination, posture, balance and coordination and walking were evaluated as part of the usual neurological examination. Routine biochemistry, hemogram and thyroid function tests were performed and found as normal, except vitamin B12 deficiency (176). Known disease, past surgery, exposure to heavy metals and drug use were not present in patient's history. The patient lacks history of alcohol and smoking; caffeine use was limited to 1–2 cups of tea/day. The patient had no family history of essential tremor or Parkinson's disease. The patient had strain while performing activities such as drinking water from a glass and drawing circles. Tremor was leading to difficulty in daily life activities and functional loss. Thyroid gland ultrasonography was performed for advanced study to enlighten essential tremor etiology: agenesis was discovered in thyroid left lobe and the size of the right lobe was 22*12 mm.

Conclusion: This case was presented due to the lack of similar case in literature. The patient was examined for increased essential tremor, and hemigenesis in thyroid gland was detected. Female gender and thyroid left lobe agenesis were coherent with literature for TH. Even though no failure was found in thyroid function tests, it may have an association in cellular level triggering essential tremor. Further studies are needed to investigate the relation between two diseases.

Biography
Gülten Özdemir graduated from Selçuk University, Faculty of Medicine in 1994. she completed her specialist education in Istanbul Okmeydanı Education Research Hospital, Department of Neurology between 2001–2016. Multiple Sclerosis, Sleep Disorders, Movement Disorders (Parkinson's disease and Parkinsonism) are among her areas of interest. In the treatment of selected Parkinson's patients with neurostimulation between the years of 2009–2014, she worked in Istanbul Medical Park Hospital together with Dr. Ali Zırh. Herishe received a course and certificate from Christian-Albrechts-University (Kiel University) on this subject. she has been working as a Neurology Specialist in Istanbul Physical Therapy Education Research Hospital since 2014.