A case of an asymptomatic Hashimoto thyroiditis in an elderly woman

Un caso di tiroidite di Hashimoto asintomatica in una donna anziana

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Case report

An 88-year-old woman, suffering from hypertension, was hospitalized after an accidental fall causing a right thoracic trauma with IV, V and VI right rib fractures. Initial biochemistry results displayed a moderate macrocitic anemia (Hemoglobin 8.2 g/dl [normal values 12 - 16]; mean cellular volume 105.8 fl [normal values 78 - 99]), mild renal insufficiency and subclinical hyperthyroidism (TSH 0.131 uIU/ml [normal values 0.28 - 4.3], fT3 1.4 pg/ml [normal values 2.0 - 5.0], fT4 10.08 pg/ml [normal values 8.0 - 17.0]). At admission, the patient...
was completely autonomous in basic activities of daily living (ADL 6/6) and almost completely autonomous in instrumental activities of daily living (IADL 6/8). Her behavior was appropriate during the interview, she was oriented in space and on herself and partially oriented in time. The score of the Mini Mental State Examination (MMSE) was slightly under the normal limit (23/30). She was able to walk alone, but in view of the recent fall, she was forbidden to get up at night to go to the toilet. During the hospital stay, she developed constipation, muscle weakness and slight confusion. Despite medical indications, one night she went to the toilet alone and slipped, breaking her left femur. She underwent hip replacement complicated by subsequent pulmonary embolism treated with heparin. Some weeks later, the patient continued to be slightly confused so in the light of the initial alteration of thyroid function we rechecked it and we tested thyroid autoimmunity to search for a dysthyroidism that could explain the patient's symptoms. Blood exams established the presence of an autoimmune hypothyroidism with a very high level of TSH only one month after the previous control (TSH 177.5 uIU/ml, fT3 0.399 pg/ml, fT4 0.404 pg/ml, antibodies anti thyroglobulin 482 IU/ml [positive > 344]). The score of MMSE was unchanged.

A replacement therapy with levothyroxine, promptly prescribed, led to a gradual improvement of the patient's symptoms.

DISCUSSION

Antibodies anti thyroperoxidase, which reflect adaptive immune response, are the best serological markers to establish the diagnosis of Hashimoto thyroiditis (positive in 95% of patients); antibodies anti thyroglobulin, the ones positive in our patient, characterize initial immune response and should be present at disease onset (as demonstrated in animal models), but are less sensitive and specific (positive in 60-80% of cases) 3.

In the Hashitoxicosis variant, the illness initially manifests itself with a transient hyperthyroid phase which is virtually undistinguishable from Graves disease and evolves after a variable period (from 3 to 24 months) into permanent hypothyroidism. At admission, our patient had a subclinical hyperthyroidism associated to low T3 syndrome, which is a frequent finding in hospitalized patients because 80% of circulating T3 is produced by the peripheral 5'-deiodination of T4, which can be inhibited by several mechanisms (cytokines 4-6, endogenous or exogenous steroids, drugs). Our patient could have had a transient, undetected, asymptomatic phase of hyperthyroidism typical in the elderly: the so-called “apathetic thyrotoxicosis”, which manifests only weakness and asthenia. Hypothyroidism is characterized by both local symptoms, due to compression of structures anatomicaly close to the thyroid gland and systemic manifestations (gastrointestinal, cardiovascular, respiratory, hematopoietic, urinary, neuro-psychiatric, skeletal, muscle and skin). A lot of patients are asymptomatic or have aspecific symptoms for a long time and this makes the diagnosis challenging specially in the elderly. Systemic manifestations are rare at the onset of hypothyroidism and they can occur after years of hormonal changes; however some disorders, like constipation or neurologic dysfunction, can be detected at the beginning and can cause significant disability 3.

In this case the patient was almost asymptomatic, except for subtle confusion which could be the evidence of an initial cognitive impairment related to hypothyroidism. This state is characterized at the beginning by decreased attention, poor concentration and deficit in executive function. During hospitalization MMSE elicited results slightly lower than normal; these would seem to be due more to the acute illnesses, which interfere with cognitive functions, than to thyroid dysfunction.

TSH is important in the screening of secondary dementias: if hypothyroidism had remained undetected, it could have worsened cognitive status (causing short term memory deficits and psycho-motor retardation), directly and indirectly related with possible mood disorders (depression and apathy) 7, which may adversely affect cognitive performance.

Furthermore, hypothyroidism could aggravate pre-existing conditions of the patient (hypertension and anemia), enhancing risk of coronary heart disease 8 and stroke 9.

Therefore, if replacement therapy had been delayed, the degree of recovery might have been incomplete, thus increasing patient's disability and frailty.
References