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Case Report

Triple organ specific autoimmunity that presented as severe fatigue

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Abstract: We present a case were triple organ specific autoimmunity coexisted in a 38 year old male patient who seeked medical attention due to severe fatigue. This autoimmunity included, autoimmune diabetes mellitus, pernicious anemia and hypothyroidism due to chronic lymphocytic thyroiditis.
Keywords: hypothyroidism, thyroiditis, autoimmunity, fatigue.

THE CASE

A 38 year old, otherwise healthy male individual, seeked medical attention to our hospital's Emergency Department, due to progressively worsening fatigue. The patient reported feeling weak over the past 6-7 months. This feeling was progressively worsening.

He reported that about two years ago was diagnosed with hypothyroidism, due to chronic lymphocytic thyroiditis and since then he was well controlled, by his primary care physician. He had no other symptoms apart from fatigue and over the period of the last 6-7 months, he was examined clinically by his primary care physician that found till this time no serious points of concern, and had given him general medical instructions, since hypothyroidism was well controlled.

The patient eventually came to the Emergency Department reporting severe fatigue that has been worsened progressively over the last months. The patient, at presentation, was afebrile, well oriented and had no clinical signs of any apparent loss of blood. His arterial blood pressure was 125/75mmHg. The rest of the physical examination was unremarkable. His lab work revealed severe anemia and a high blood glucose level. His whole lab work during admission was: WBC: 6900/μL, HCT=21%, Hb=7.2g/dl, MCV=115fl, PLT=194000/μl, blood glucose level: 377mg/dl (without a known medical history of diabetes), urea=39mg/dl, creatinine=0.8mg/dl, SGOT=23U/L, SGPT=30U/L, K=4.1mmol/L, Na=134mmol/L. All the rest of the biochemical parameters were normal. There was no acidosis in his arterial blood gases.

THE DIAGNOSIS

During his hospitalization we performed an extensive investigation that included a complete endoscopy of the gastrointestinal tract that revealed signs of atrophic gastritis. His glycosylated haemoglobin level (HbA1c) was 8.154% (65.6 mmol / mol) and the extensive lab work revealed the following autoantibodies: anti-GAD65=288 IU/mL (normal <5), anti-IA2=3.89 U/mL (normal <2) and anti-intrinsic factor=39.5 U (normal<20).

Despite the fact that autoimmune diseases often coexist, this is a case of a triple organ specific autoimmunity, were autoimmune type 1 diabetes (in this case, most probably a case of Latent Autoimmune Diabetes of the Adults, LADA), pernicious anemia and the previously known to the patient hypothyroidism (due to chronic lymphocytic thyroiditis – Hashimoto's thyroiditis) coexisted in this 38 year old male patient. The only presenting symptom was progressively worsening fatigue and despite that he was recurrently evaluated over the period of the last 6-7 months by physicians in the primary care setting, this symptom didn't prompt any further investigation. The patient was eventually diagnosed with APS type 3 (Autoimmune Polyglandular Syndrome type 3) and was treated, apart from thyroxine per os, with intramuscular cyanocobalamin and multiple daily injections of insulin. He was also able to consume meals.

DISCUSSION

Type 1 diabetes mellitus (T1DM) results from autoimmune destruction of insulin-producing β-cells [1]. In up to one third of patients, the autoimmune attack is not limited to β-cells, but expands into an autoimmune polyglandular syndrome. Of patients with Type 1 diabetes, 15 to 30% have autoimmune thyroid disease (Hashimoto's or Graves'disease), 5 to 10% are diagnosed with autoimmune gastritis and/or pernicious anemia, 4 to 9% present with celiac disease, 0.5% have Addison's disease, and 2 to 10% show vitiligo [2, 3].

Organ specific autoimmunity is frequent in T1DM. In our case, autoimmune diabetes mellitus, pernicious anemia and hypothyroidism due to chronic lymphocytic thyroiditis, co-existed in a 38 year old male who seeked recurrently medical attention due to progressively worsening fatigue. Previous reports have described similar cases, but with different clinical presentation at diagnosis [4].

Autoimmune polyglandular syndrome was described by Neufeld et al. in 1980 as an autoimmune disease that involves multiorgan failure [5]. APS type 2 is known as Schmidt's syndrome and is defined by the presence of adrenal insufficiency and autoimmune thyroid disease. Type 1 diabetes mellitus, gonadal failure, pernicious anemia, and myasthenia gravis can also occur. On the other hand, APS type 3 is an autoimmune thyroid disease without adrenal insufficiency and another associated autoimmune disease such as type 1 diabetes mellitus, pernicious anemia, vitiligo, and/or alopecia [2, 5].

Since patients with autoimmune disorders exhibit an increased risk of developing other autoimmunities, physicians especially in the primary care setting, should be alert to the possibility, even when handling general symptoms like fatigue, which is described in this case. The presence of organ-specific autoantibodies can be used to screen patients who are at higher risk of developing autoimmune diseases. Early detection of antibodies and latent organ-specific dysfunction is advocated to alert physicians to take appropriate action in order to prevent full-blown disease. Patients and family members should also be educated to be able to recognize signs and symptoms of underlying disease.

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