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Case Report

Sjogren's Syndrome Associated with Hypoparathyroidism Revealed by Neuropsychiatric and Rheumatologic Manifestations

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Abstract

Hypoparathyroidism is a rare condition characterized by hypocalcemia, hyperphosphoremia and low or inappropriately normal parathormone (PTH) levels. Hypocalcemia may have chronic as well as acute manifestations that may require an urgent treatment. It can also remain asymptomatic and discovered incidentally during biochemical analysis. Hypoparathyroidism can be iatrogenic, related to genetic abnormalities or autoimmune and in this case, it was described to be associated with several autoimmune diseases. Here we present a rare case of a female patient diagnosed with hypoparathyroidism and Sjogren's syndrome (SS) revealed by neuropsychiatric and rheumatologic manifestations in addition to renal cell carcinoma and splenic inflammatory pseudotumor.

Keywords: *Sjogren's Syndrome; Hypoparathyroidism; Autoimmune Disease; Renal Cell Carcinoma; Inflammatory Pseudotumor of the Spleen*

Abbreviations

PTH: Parathormone; SS: Sjogren's Syndrome; APS: Autoimmune Polyendocrine Syndromes

Introduction

The hormonal regulation of the of calcium and phosphate balance is assured by vitamin D and parathormone (PTH) which is a hormone synthesized by the parathyroid glands. Its secretion is modulated by the blood calcium level and its level increases in response to hypocalcemia [1].

Hypoparathyroidism is a rare disease characterized by hypocalcemia and hyperphosphoremia secondary to inadequate production of PTH in contrast to pseudohypoparathyroidism in which the PTH level is high due to PTH resistance [2]. The etiologies of the acquired hypoparathyroidism are dominated by anterior neck surgery representing 75% of cases followed by the autoimmune hypoparathyroidism [3].

Primary Sjogren's syndrome (SS) is referred to patients having SS without additional autoimmune systemic rheumatic diseases. SS is described to coexist with organ-specific autoimmune diseases such as Hashimoto's thyroiditis and Graves' disease [4].

In this article, we describe the case of a patient diagnosed with hypoparathyroidism associated to primary SS revealed by neuropsychiatric and rheumatologic manifestations.

Case Report

A 61-year-old woman was referred to our hospital for chronic polyarthralgia. She had a history of hypertension treated by an angiotensin-converting-enzyme inhibitor from 5 years and a somatoform disorder followed in psychiatry and treated by Fluoxetine. She was

receiving Formoterol for chronic obstructive pulmonary disease diagnosed from 20 years. 9 years ago, she underwent right radical nephrectomy and splenectomy respectively for renal cells carcinoma and inflammatory pseudotumor of the spleen. She also had a history of premature menopause at the age of thirteen.

During her hospitalization, the patient showed a depressed mood with loss of interest and insomnia, in addition to multiple somatic complaints essentially headaches, fatigue, muscular cramps, painful dysesthesias and generalized paresthesia. She experienced mild symptoms of tetany. Chvostek and trousseau sign were present associated with a prolonged QT interval on the electrocardiogram.

A standard laboratory blood test revealed hypocalcemia, hyperphosphoremia, normal creatininemia and magnesiemia associated with low PTH level and thus the diagnosis of hypoparathyroidism was made (Table 1). The patient underwent an intravenous calcium supplementation along with oral calcium carbonate 2000 mg b.i.d. and Alfacalcidol (1-hydroxycholecalciferol) 1 µg q.d. The clinic symptoms and the electric signs had regressed after the correction of the hypocalcemia.

Biochemical parameters	August 2016	July 2017
Calcemia (mmol/L)	1.18 - 2.21	1.53 - 2.1
Corrected calcemia (mmol/L)	1.35 - 2.38	1.75 - 2.32
Phosphoremia (mmol/L)	2.62	2.1
Magnesiemia (mmol/L)	0.85	0.87
Potassium (mmol/L)	3.5	3.5
Creatininemia (µmol/L)	57	58
Proteinemia (g/L)	85	76
Albuminemia (g/L)	33	31.4
Parathormone (pg/mL)	6	
25OH vitamine D3 (ng/mL)	23	
Thyroid-stimulating hormone (mIU/L)	0.8	
Rheumatoid Factor (IgA) (IU/mL)	140	
Calciuria (mmol/24h)	2.86	
Urine phosphorus (mmol/24h)	7.78	

Table 1: *Patient's Biochemical parameters.*

The search for chronic manifestations of longstanding hypoparathyroidism revealed Fahr's syndrome with basal ganglia calcifications on the computed tomography scan without extrapyramidal signs (Figure 1). Bilateral Corticonuclear and posterior subcapsular cataracts, dental caries and patchy alopecia had also been noted.

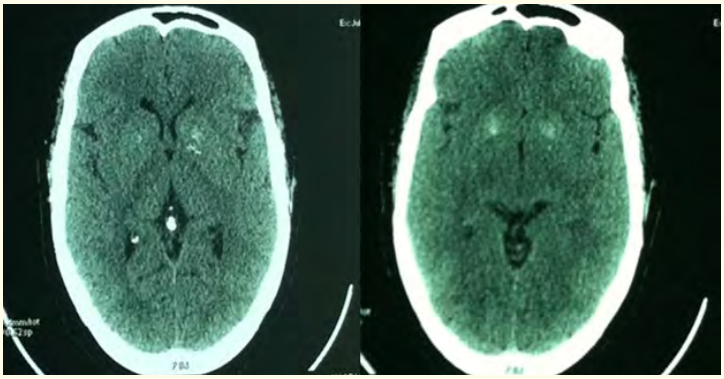

Figure 1: *Bilateral calcification in the anterior lentiform nucleus.*

The diagnosis of primary SS was made according to the American-European Consensus Group (AECG) classification by having a focus score equal to 1 focus/4 mm^2 in the labial salivary gland biopsy (grade 3 of Chisholm) associated with xerostomia, xerophthalmia, an altered tear break-up time along with a positive Schirmer test.

Discussion

Hypoparathyroidism is a rare endocrine disorder with a prevalence estimated at 37 in 100,000 habitants representing approximately 100,000 patients in the United States [5]. In this disease, a greater tendency of affection in woman and people aged more than 45 years was found in 75% of cases. The most common cause is iatrogenic in three-quarters of cases versus 25% for non-surgical causes [3].

In our case, the patient did not have a history of surgery nor irradiation nor signs indicating an infiltrative disease. The autoimmune origin of hypoparathyroidism is considered due to its association with two autoimmune diseases to know premature menopause and primary SS. Autoimmune hypoparathyroidism may be isolated or associated to different autoimmune polyendocrine syndromes (APS) [2].

The clinical finding in our patient didn't reveal candidiasis or adrenal insufficiency. The thyroid function was normal and its specific antibodies were negative. APS type 4 could be considered in our case since the patient had two organ specific autoimmune diseases to know premature menopause and hypoparathyroidism in addition to primary SS.

Considering the symptoms, hypoparathyroidism had a spectrum of clinical manifestations in which their intensity depends on the severity of PTH and vitamin D deficiency, the rate of decrease and the degree of hypocalcemia, in addition to an individual variability [6]. Neuromuscular symptoms are described often to be the initial clinical manifestations and in different series, carpopedal spasm and paresthesia was present respectively in more than 54% and 70% of cases, followed by seizures, irritability, memory loss, gait instability, fasciculations and psychosis [7].

Aggarwal., *et al*. found in their cross-sectional study that up to one-third of patients had cognitive, psychiatric and neurological dysfunctions and that a correlation was suggested with the duration of illness, the female gender, the serum calcium but not with intracranial calcification [8]. In another study, Underbjerg., *et al*. indicated that hypoparathyroidism is associated with an increased risk of depression and other types of neuropsychiatric diseases comparing to controls [9]. Neurological manifestations reported to improve after correction of hypocalcemia while psychiatric symptoms do not tend to improve substantially [10].

In our case, the patient had in addition to the neurologic symptoms, a somatoform disorder that was treated by antidepressant for several years prior to the diagnosis of hypoparathyroidism and SS. These symptoms could be attributed to both diseases which furtherly altered her quality of life.

At our knowledge, the association of SS and hypoparathyroidism was described twice in the literature. The first by Edmonds in 1979, in which a female patient was diagnosed with rheumatoid arthritis associated with hypoparathyroidism and SS [11]. The second by Harris HE., *et al*. In 2011 in which the authors detected calcium-sensing receptor (anti-CaSR) antibodies in a patient with SS and primary hypoparathyroidism [12].

Our patient had an inflammatory pseudotumor of the spleen which is a benign lesion, firstly described in 1984 by Cotelingam and Jaffe, and since 114 cases have been published. It can be revealed by abdominal pain, fever, splenomegaly or discovered incidentally [13]. The association between this lesion and renal cell carcinoma was described once by Loshii., *et al* in 2004 [14].

In our case, the splenic inflammatory pseudotumor was discovered incidentally and concomitantly with the renal cell carcinoma which was revealed by flank pain and hematuria. Both diagnoses were confirmed by the histopathological analysis and their clinical course was favorable after unilateral nephrectomy and splenectomy.

In summary, we reported an unusual case of an association of hypoparathyroidism with SS and premature menopause along with renal cell carcinoma and inflammatory pseudotumor of the spleen. Although the incidence of lymphoma was confirmed to be high in patients with primary SS, the incidence of non-lymphoid cancer wasn't proved yet needing further investigations [15].

Conflict of Interest

The authors state that they have no conflicts of interest.

Bibliography

1. Al-Azem H and A A Khan. "Hypoparathyroidism". *Best Practice and Research, Clinical Endocrinology and* Metabolism 26.4 (2012): 517-522.
2. Betterle C., *et al*. "Diagnosis and classification of autoimmune parathyroid disease". *Autoimmunity Reviews* 13.4-5 (2014): 417-422.
3. Abate Ejigayehu G and Bart L Clarke. "Review of Hypoparathyroidism". *Frontiers in Endocrinology* 7 (2016): 172.
4. Rischmueller M., *et al*. "Primary Sjögren's syndrome". *Best Practice and Research. Clinical Rheumatology* 30.1 (2016): 189-220.
5. Mitchell DM., *et al*. "Long-Term follow-up of patients with hypoparathyroidism". *The Journal of Clinical Endocrinology and Metabolism* 97.12 (2012): 4507-4514.
6. Bilezikian JP., *et al*. "Management of Hypoparathyroidism: Present and Future". *The Journal of Clinical Endocrinology and Metabolism* 101.6 (2016): 2313-2324.
7. Bhadada SK., *et al*. "Spectrum of neurological manifestations of idiopathic hypoparathyroidism and pseudohypoparathyroidism". *Neurology India* 59.4 (2011): 586-589.
8. Aggarwal S., *et al*. "Neuropsychological dysfunction in idiopathic hypoparathyroidism and its relationship with intracranial calcification and serum total calcium". *European Journal of Endocrinology* 168.6 (2013): 895-903.
9. Underbjerg L., *et al*. "Postsurgical hypoparathyroidism--Risk of fractures, psychiatric diseases, cancer, cataract, and infections". *Journal of Bone and Mineral Research: The Official Journal of the American Society for Bone* and *Mineral Research* 29.11 (2014): 2504-2510.
10. Amaral AD., *et al*. "Organic psychosis due to hypoparathyroidism in an older adult: a case report". *Revista Brasileira de Psiquiatria* 38.4 (2016): 349-350.
11. Edmonds ME., *et al*. "Rheumatoid arthritis associated with hypoparathyroidism and Sjögren's syndrome". *Journal of the Royal Society of Medicine* 72.11 (1979): 856-858.
12. Harris HE., *et al*. "First report of anti-Calcium-Sensing receptor antibodies in a patient with Sjogren's syndrome and primary hypoparathyroidism". *Rheumatology (Oxford, England)* 50.6 (2011): 1173-1175.
13. Ugalde P., *et al*. "Inflammatory pseudotumor of spleen: a case report". *International Journal of Surgery Case Reports* 7 (2015): 145-148.
14. Loshii SO., *et al*. "Inflammatory pseudotumor of the spleen concomitant with renal cell carcinoma: case report". *Sao Paulo Medical Journal* 122.5 (2004): 217-219.
15. Lazarus MN., *et al*. "Incidence of cancer in a cohort of patients with primary Sjogren's syndrome". *Rheumatology (Oxford, England)* 45.8 (2006): 1012-1015.

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