

# Atypical subacute thyroiditis

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## Introduction:

Subacute thyroiditis (SAT), also known as de Quervain's thyroiditis, giant cell thyroiditis, or subacute granulomatous thyroiditis, is a spontaneously remitting inflammatory disease of the thyroid gland (Pearce et al., 2003, Geave et al., 1988). Subacute thyroiditis is generally caused by viral infection and is the most common cause of painful thyroid (Tsai et al., 2010). Upon physical examination, the thyroid gland is often tender and diffusely enlarged. Herein, we present a patient with atypical SAT who had no neck pain but presented with fever, and weight loss; had T3 thyrotoxicosis with normal <sup>99m</sup>Tc uptake, and needed higher doses of steroids to resolve.

## Case report:

A 57-year-old man presented with a fever (39°C) of 2 month-duration. Physical examination was unremarkable. Laboratory analysis revealed WBC: 10550 K/uL, Hemoglobin: 10 g/dl, erythrocyte sedimentation rate: 102 mm/h, C-reactive protein: 17 mg/dl (<0,5) and normal renal, hepatic function tests. Hepatitis and human immunodeficiency virus serologies were negative. Toxoplasmosis, Epstein-Barr virus, and cytomegalovirus IgM and IgG titers were negative. Blood and urine cultures were also negative. Serum protein electrophoresis showed no abnormality compatible with multiple myeloma. Computed tomography of the neck, thorax and abdomen showed jugular, mediastinal, parailiac and retroperitoneal lymph nodes in nonpathological size. Biopsy of a lymph node showed lymphoid hyperplasia. Transthoracic echocardiography did not show any finding compatible with infective endocarditis. TSH: 0.412 IU/ml (0.2-4.2), FT3: 14 pg/ml(2.8-4.3), FT4: 0.9ng/dl(1.04-1.65), anti-TPO:16 (0-34), anti-TG:32 IU/ml (0-115), TSH receptor antibody: 0.4 U/L(<1,8), thyroglobulin: 14 ng/ml(0,83-68). Thyroid ultrasonography did not show any nodules. Thyroid scintigraphy showed normo-active, diffuse hyperplastic thyroid gland. Methimazole and propranolol were initiated. But his fever did not resolve until 60 mg of methylprednisolone was given with the diagnosis of SAT.

## Discussion:

The hall mark of SAT is pain in the region of thyroid and fever. The pain is usually constant, either gradual or sudden in onset, and usually aggravated by turning the head and swallowing. The thyroid is typically sensitive on physical examination. In our case the thyroid was nontender and prolong fever remains undiagnosed after an intensive diagnostic work up. A rare endocrine causes of fever of unknown origin (FUO) is SAT. Subacute thyroiditis is usually a fairly straightforward diagnosis. However, if a patient with subacute thyroiditis has a no physical finding and nonspecific abnormal laboratory finding that not suggest SAT, the diagnosis can be difficult. The patient thyroid function test is consistent with FT3 toxicosis. T3 toxicosis is caused by iodine deficiency or compensatory increased hormone production or faster peripheral T4 to T3 conversion or relapse after subtotal thyroidectomy or increased hormone production in the early stages of Graves' disease, multinodular goiter or the autonomously functioning solitary nodule (Davis, 2009; Rehman et al., 2005). It is important to exclude the thyroid disease causing FT3 toxicosis before starting steroid treatment. In our case thyroid antibodies, TSH receptor antibody and thyroid usg was not consistent with Graves' disease and the others. Methimazole and propranolol were initiated. After steroid treatment, FT3 levels decreased which had increased previously with methimazol (Table).

Measurement	Treatment with methimazole and lithium	Treatment with low dose corticosteroids	Treatment with high dose corticosteroids
TSH	0,042	0,035	0,2
Free T3 pg/ml(2,8-4,3)	22	14	5,8
Free T4 ng/dl(1,04-1,65)	1,8	1,6	1,4

Table. Thyroid Functions Test Results

## Conclusions:

This case presented atypically in that he had no neck pain but was diagnosed with SAT while being worked up for the fever of unknown origin. Interestingly, he had normo-active thyroid gland and his FT3 levels increased to very high levels in disproportion to his FT4 levels. Higher doses of steroids were needed to resolve his fever and normalize his FT3 levels. This report illustrates that the diagnosis and treatment of SAT can sometimes be difficult.

