



ORIGINAL RESEARCH PAPER

Medicine

A PAINFUL CAUSE OF FEVER

KEY WORDS: de Quervain's Thyroiditis, Subacute Thyroiditis, Thyrotoxicosis, Hypothyroidism

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ABSTRACT

A middle aged male patient presented with fever and sore throat who remained symptomatic in spite of several antibiotics. He was detected to have tender thyromegaly and thyrotoxic features. Clinically suspected to have thyroiditis. Investigations confirmed the diagnosis of Subacute Thyroiditis (SAT, de Quervain's Thyroiditis). Characteristic thyroid hormone ratio, FNAC and Isotope scan were shown in our patient. Follow up revealed that he has passed through the various phases of thyroid status as given in the literature.

INTRODUCTION:

Fever and sore throat are common. Our patient also had fever and sore throat. But he also had thyromegaly and thyrotoxic features. Is it a preexisting toxic goiter now presented with a fever due to some other cause? Or is it one among the various forms of thyroiditis? We have to differentiate because the treatment is entirely different.

Detailed history, clinical examination and laboratory parameters were helpful in solving this clinical problem.

CASE REPORT:

A 50 year old male was admitted with fever and sore throat of two weeks duration. He had already received two courses of antibiotics but remained symptomatic. No history of any other medication, radiation or trauma.

On Physical Examination he was febrile, pulse 120/mt, regular. Tachycardia persisted even after becoming afebrile. Sleeping pulse rate was high. Thyroid was enlarged, tender and smooth without thrill or bruit.

He had fine tremor of hands, lid lag and lid retraction. Other systems were normal.

Investigations:

- CBC = Within Normal Limits.
- ESR = 75 mm at one hour.
- ECG = Sinus Tachycardia.
- Thyroid Function Test = as per the Table (1).
- Thyroid Autoantibodies = Negative.
- Thyroid U/S = Diffusely enlarged with variable sized low echogenic areas with poorly defined outlines.
- FNAC = multinucleate giant cells Tc-99m Thyroid Scan = Less than 1% uptake as per Figure (I).

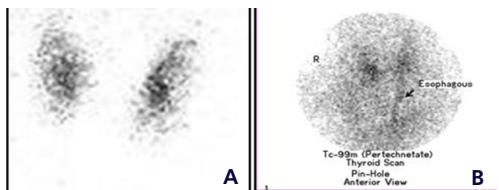


Fig. (I)A: Normal Thyroid Scan

B: Thyroid scan in our patient depicting reduced uptake

Patient was diagnosed to have Subacute Thyroiditis (De Quervain's thyroiditis) in the Thyrotoxic phase and treated with Nonsteroidal anti-inflammatory drugs (NSAIDs) and beta blocker. He was clinically improved and discharged.

Follow up was done over 7 months. He is asymptomatic, no fever,

no throat pain, pulse 68/min, no goiter, ankle jerk is normal, no features of hypo or hyperthyroidism, ESR 3 mm at one hour, repeated Thyroid U/S is normal. Thyroid Function Test over 7 months shown in the Table (1).

Table (I): Thyroid Function Tests over 7 months

	6/10/2017 (At Presentation)	8/10/2017	10/12/2017	24/02/2018	15/5/2018 (Last Visit)
FT4 (12-22 pmol/L)	64	63	19	9	15
FT3 (3.9-6.8 pmol/L)	18	17	7	5	6
TSH (0.27-4.2 µiu/ml)	<0.005	<0.005	<0.005	<0.05	1.4
THYROGLOBULIN (1.4-78 ng/ml)	347		55		24

This shows, he has passed through all the 4 phases of the progression of this disease, as shown in Figure (II).

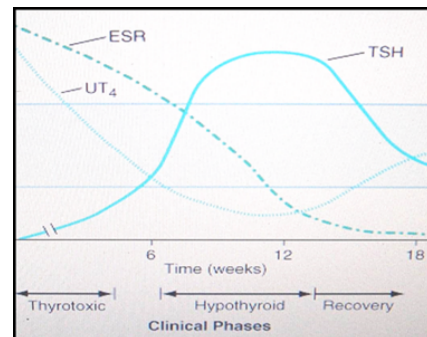


Fig. (II): Clinical Phases of Subacute thyroiditis with Unbound T4 (UT4), TSH and ESR levels

DISCUSSION:

Our patient presented with fever and sore throat. Thyrotoxicosis was suspected from the persistent tachycardia and other signs.

Investigations confirmed that he has thyrotoxicosis.

Tenderness of the gland, raised ESR, multinucleated giant cells in FNAC, characteristic FT3:FT4 ratio^(1,2,3), absent thyroid auto antibodies and reduced isotope uptake confirmed Subacute or De Quervain's thyroiditis as the underlying cause of his thyrotoxicosis.

Over a course of seven months he has passed through all the

clinical phases, i.e. thyrotoxic, euthyroid, hypothyroid and ultimately euthyroid phase.

De Quervain's Thyroiditis is an uncommon disease usually with a self limiting course with female to male ratio 5:1.

Symptoms of thyroiditis usually follow upper respiratory tract infection. In addition to general symptoms of infection, a characteristic feature is gradual appearance of pain in the region of the thyroid gland. Pain may be referred to the lower jaw, ear or occiput. In some patients, typical features are absent and they have prolonged fever, significant weight loss and no local symptoms. Systemic symptoms and fever may persist for weeks or months before diagnosis is clinched. One third will have only thyrotoxicosis, one third will have only hypothyroidism and the rest third will have both phases in the total course. Usual duration of thyrotoxicosis is 1-3 months and of hypothyroidism is 1-3 months.

(4)

Aetiologically, mumps, coxsackie virus, echovirus and adenoviruses have been implicated either directly or through host defense mechanism. (5)

Histopathologically, multinucleate giant cells surrounding colloid are characteristic features.

Primary events are destruction of follicular epithelium and loss of follicular integrity. Preformed hormones are released leading to elevated T_3 , T_4 , suppressed TSH and clinical features of thyrotoxicosis. Low TSH is a consequence of raised thyroid hormones. Later, serum T_3 and T_4 levels come down, sometimes into the hypothyroid range as hormone stores are depleted, with a rise in TSH levels. T_3 and T_4 concentrations rise as hormone secretion resumes and TSH concentration decreases to normal. Ultimately, as the disease subsides, thyroid function returns to normal.

Although thyroid function normalizes spontaneously in 95 % of patients over a period of 6 to 12 months, residual hypothyroidism persists in 5 % of patients. (6)

Painful subacute thyroiditis recurs in only about 2 % of patients. (7)

Treatment is with non steroidal anti inflammatory drugs to control symptoms. In severe cases glucocorticoids (20-40 mg prednisolone daily) alleviate the symptoms. Transient thyrotoxicosis is controlled by beta-blockers. Therapy with levothyroxine is rarely required, because the hypothyroid phase is generally mild and transient, but it is indicated for symptomatic patients. (8)

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