Case Report

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Painless Thyroiditis Presenting as Pyrexia of Unknown Origin : A Case Report

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ABSTRACT

Background: Pyrexia of Unknown (PUO) origin is a difficult and challenging problem for the physician. Among the endocrine disorders, such as painless thyroiditis, rarely present with pyrexia of unknown origin. Thyroiditis have a broad spectrum clinical presentations including fever and biochemical thyrotoxicosis with or without overt signs or symptoms. The objective of this study to report an unusual case as a cause of pyrexia of unknown origin.

Case Presentation: This case report describes a 50 year old Gentleman with prolong fever and weight loss for 3 months with high inflammatory markers biochemically. On general examination,the patient hadmild fever, anemia and nutritional status below average. There was no pain in the neck. Despite an extensive evaluation, the patient had persistent fever and no cause was found. Finally Thyroid Function test was done that revealed suppressed Thyroid Stimulating Hormone (TSH) and elevated Free Thyroxine (FT4) and Free Triiodothyronine hormone levels (FT3) levels. In thyroid scan and uptake study, there was Thyroiditis. He responded well to beta blocker and oral steroids.

Conclusion: Painless thyroiditis should be considered in the diagnostic workup of pyrexia of unknown origin. It is a diagnostic challenge for the physician but outcome is excellent.

KEY WORDS

Fever; Pyrexia of Unknown Origin (PUO); Thyroiditis.

INTRODUCTION

In 1961, Petersdorf and Beeson defined Pyrexia of Unknown (PUO) as "Febrile illness lasting for more than 3 weeks, more than 38.3°C on several occasions and no diagnosis after 1 week of indoor investigations or 3 outpatient visits".[1] The most common causes of PUOare infectious, neoplastic, rheumatic and inflammatory disorders. On rare occasion, PUO associated with endocrine causes. Painless or Silent thyroiditis is a rare cause of PUO, also known as Subacute lymphocytic thyroiditis. It is one of the subtypes of Subacute thyroiditis that is generally known as subacute thyroiditis where the thyroid gland is painful. But in Silent thyroiditis, there is no pain in thyroid gland hence it is called 'silent'. It is an immune reaction of the thyroid gland. The disorder can cause hyperthyroidism, followed by hypothyroidism and then there is a recovery state. The earliest symptoms result from an overactive thyroid gland (Hyperthyroidism) are weight loss, increased sweating, fatigue, fever, irritability, irregular menstrual periods in women, nervousness and palpitation. These symptoms may last for up to 3 months. Later symptoms may be of an underactive thyroid (Hypothyroidism), including fatigue and cold intolerance, until the thyroid recovers.[2,3] Diagnosis of painless thyroiditis is based upon clinical manifestations, laboratory findings and also thyroid scintigraphy. In many cases, Silent thyroiditis is a self-limiting condition that resolves on its own.Sometimes symptomatic treatment may be needed. This case report describes a 50 years old gentleman presented with prolong fever and weight loss for 3 months. He was evaluated extensively and diagnosed as Painless thyroiditis as cause of PUO. With symptomatic treatment and watchful observation, now he is completely symptoms free and living a healthy life.

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CASE REPORT

A 50 years old hypertensive, nondiabetic gentleman came to the Department of Medicine, Bikrampur Bhuiyan Medical College Hospital on 17th March 2018 with the complaints of fever, generalised weakness, irritability and weight loss for last 3 months. There was

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high grade intermittent fever. He gota significant weight loss of about 5 kg in last 3 months. There was no history of eye problem, cardiac or neurological problems.His bladder and bowel functions were normal. On examination, he was found mild anemic with a nutritional status of below average.

The patient was febrile 100°F with regular heart rate 102 b/min, blood pressure of 130/70 mmHg with normal jugular venous pressure. Examination of neck, chest, abdomen, central and peripheral nervous systems were unremarkable.Thyroid gland was not enlarged and there's no lymphadenopathy. Laboratory investigations revealed haemoglobin 11.5 gm/dl, Erythrocyte Sedimentation Rate (ESR) 83 mm in 1st hour, CRP high, total white blood cell count 14.25x10^9/L, neutrophil 69.9%, lymphocyte 23.2%, Platelet count 341 x 10^9/L. The liver and renal function tests were normal. The Chest X ray was unremarkable and Electrocardiogram (ECG) showed sinus tachycardia. Routine urine examination revealed no abnormality, no growth in blood and urine culture, Ultrasonography (USG) of whole abdomen showed mild prostatic enlargement but PSA (Prostate Specific Antigen) was within normal limit. Despite an extensive evaluation, the patient had persistent fever and no cause was found. Finally Thyroid Function test was done and it showed a high level of FT3 and FT4 (7.65 pmol/L, 29.4 pmol/L respectively) a low level of TSH (0.01uIU/ml) and a high antithyroid antibody (Thyroid peroxidase, Thyroglobulin) titre. But TSH receptor antibody within normal limit. The USG of neck including thyroid gland was normal, thyroid scan and uptake was low (Figure 1). Investigation findings were suggestive of Thyroiditis in hyperthyroid phase.

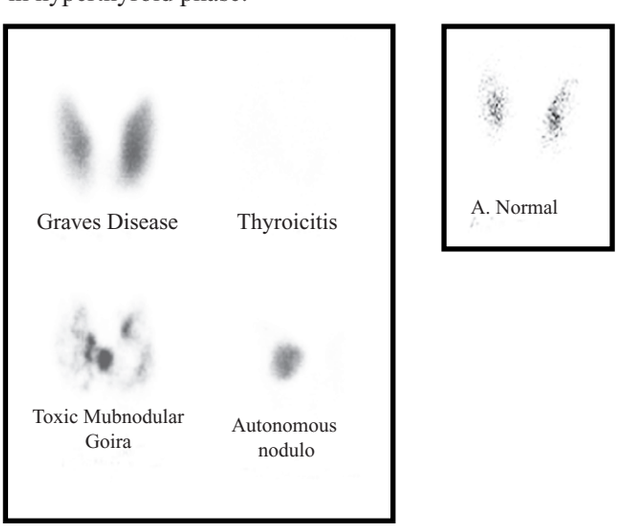

Figure 1 Low Radioiodine uptake in Thyroiditis
(In comparison to other high uptake thyroid pathology)

In addition incorporated a table to show laboratory test reports:

Lab Test	Finding	Normal range
Hemoglobin	11.5 gm/dl	Male: 12.5-17.5 gm/dl
Total Leucocyte Count	14.25x 10^9/L	(4 – 11) x 10^9/L
ESR (Westergren Method)	83 mm/1st Hr	Male: 12 mm or less
Neutrophil	69.9 %	40 – 75 %
Lymphocyte	23.2 %	20 – 45 %
Platelet Count	341x 10^9/L	Adult: 150.0 – 450.0
CRP	50 mg/dL	< 5 mg/dL
TSH	0.01µIU/ml	0.35-4.94 (adult)µIU/ml
FT4	29.4 pmol/l	9.01-19.05 pmol/l
FT3	7.65 pmol/l	2.3 –6.3 pmol/l

The medications that were prescribed was abeta blocker as Propanolol 60 mg daily in divided doses and short course of oral Prednisolone 40 mg daily and he responded well. Fever subsided, general condition improved. After two months a repeat thyroid function tests done and found TSH, FT4, FT3 are all within normal limit. In this interim period patientremained completely well, he was afebrile and there were no new symptoms. He was advised for regular follow up. Before present the study, patients consent has been obtained.

DISCUSSION

The silent thyroiditis also known as subacute lymphocytic thyroiditis and lymphocytic thyroiditis with spontaneously resolving hyperthyroidism. Painless thyroiditis accounts for approximately 0.5 to 5 percent of cases of hyperthyroidism.[2,3] The cause of the disease mostly remain unknown. But it is related to an immune attack against the thyroid by the immune system.[4] This condition is more common in women more often than men. The hyperthyroid phase may be followed by recovery or by hypothyroidism (Usually clinically mild or even asymptomatic) for two to eight weeks, followed by recovery. Approximately 10 percent of patients may have additional episodes of painless thyroiditis, typically occurring years apart. Painless thyroiditis is associated with specific Human Leukocyte Antigen (HLA) haplotypes, most often HLA-DR3, findings that suggest an inherited susceptibility.[5] However, the association is considerably weaker than that between HLA-B35 and subacute thyroiditis. At the beginning of Silent Thyroiditis, it causes signs and symptoms of hyperthyroidismand symptoms usually last for 3 months or less.

The associated signs and symptoms of hyperthyroidism may include: Sleeping difficulties including insomnia, excess sweating and intolerance to heat, increased to excessive hunger, irritation, restlessness and nervousness,

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menstrual abnormalities in women, rapid heart rate and weight loss. As the condition progresses, it leads to hypothyroidism and the signs and symptoms associated with this condition may include difficulty inconcentrating or thinking, fatigue and tiredness, dry skin, hair loss, constipation, weight gain, heavy and irregular periods (In women) abnormal sensitivity to cold. Risk factors associated with Silent thyroiditis include: Female gender, family history of Silent Thyroiditis, autoimmune disorders including systemic lupus erythematosus, cancer patients who underwent radiation therapy for Hodgkin's lymphoma, immune thrombocytopenia, following stoppage of steroid therapy (Usually long-term) those who have undergone adrenal gland removal surgery for Cushing syndrome, Lithium treatment in some individuals.[4]

Silent thyroiditis can be diagnosed with a simple physical examination and a thorough medical history. Some of the signs and symptoms that are noted may includean enlarged thyroid gland, elevated heart rate, shaking hands.[4] In most cases, no tests are required to diagnose the condition. However, few diagnostic tests may be suggested, when necessary likeblood tests to assess increase in levels of thyroid hormones fT3 and fT4, decreased TSH, Radioactive iodine uptake, Ultrasound scan of the thyroid gland.[6]

In many cases, silent thyroiditis is a self-limiting condition. Sometimes symptomatic treatment may be needed. Beta-blockers are known to relieve an elevated heart rate and excessive sweating. In cases of severely deranged thyroid function, glucocorticoid therapy has been used successfully.[7] Sometimes, thyroid hormone replacement is needed, if symptoms of hypothyroidism persist. Follow-up care with screening and check-ups are important at regular intervals. Silent thyroiditis often goes away on its own within a year.[8] The acute phase typically ends within a 3-month period. In such cases, the prognosis of Silent thyroiditis is excellent. About 80% of the patients shows a complete recovery. Some may develop hypothyroidism over time. As the condition resolves on its own, in a majority of individuals, the thyroid gland function comes back to normal (Euthyroid state).[9]

LIMITATIONS

Fine Needle Aspiration Cytology (FNAC) of thyroid gland could not be conducted for this patient which would be more specific for identification of thyroiditis and explore more histological details.

CONCLUSIONS

The studied patient is now in euthyroid state. He is afebrile for last 1 and half month without any medicine. He was advised to re-visit after 6 months.

RECOMMENDATIONS

A close follow-up is necessary with 6 month intervals; during the follow-up visits, thyroid hormone levels in blood should be checked.

DISCLOSURE

The authors decleared no conflict of interest.

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