中文題目：案例報告---以『不明熱』表現之非典型亞急性甲狀腺炎

英文題目：A case of atypical subacute thyroiditis presenting as fever of unknown origin

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Abstract

Subacute thyroiditis (SAT) is a self-limited disease and typically characterized by a painful thyroid glands, fever and symptoms of thyrotoxicosis. SAT is one of the rarely unrecognized cause of fever. We described a case of 41-year-old man who presented with fever of unknown origin (FUO) without neck pain or clinical features of thyrotoxicosis. The laboratory and image (Gallium-67 inflammation scan) findings suggesting SAT. The thorough investigation for FUO is often time-consuming and expensive. In addition, empirical antibiotic treatment might result in unnecessary side-effects. In brief, SAT should be considered when exploring the etiologies of FUO, even the absence of symptoms and signs of thyrotoxicosis.

Introduction

Fever of unknown origin was defined in 1961 as an illness of fever more than 38.3℃ on several occasions, more than 3 weeks' duration, failure to reach a diagnosis despite 1 week of inpatient investigation. [1] It was categorized into several causes: infectious diseases, neoplasms, noninfectious inflammatory diseases, miscellaneous causes and undiagnosed causes. The number of infections and neoplasms causing FUO decreases because the potent broad-spectrum antibiotics and widely available imaging tools. In the other hand, the no diagnosis part is reached in up to 50 % of cases. [2]

Endocrine causes of FUOs are rare. Subacute thyroiditis (SAT) is an uncommon but well documented cause of FUO. It is typically diagnosed via the history of viral infection and followed by a painful thyroid gland with symptoms of thyrotoxicosis, such as palpitations, fatigue, nervousness, irritability, anxiety and weight loss. However, SAT might also present as fever without a painful thyroid gland or significant symptoms/signs of thyrotoxicosis. In patient presents with FUO, SAT should always be one of the possible diagnosis even if typical manifestations are absent.

Case Report

A 41-year-old Chinese man presented with fever, chills, anorexia and generalized weakness for one month. He denied any other symptoms except palpitation sometimes. He visited local medical clinic and local hospital, but the symptoms persisted after taking medicine. His past, personal and family history was unremarkable.

On admission, his temperature was 38.6 ℃, the blood pressure was 120/71 mmHg, the pulse rate was 83 per minute, the respiratory rate was 18 per minute. The thyroid gland was not enlarged or tenderness. The remainder of physical examination was unremarkable. Laboratory investigation showed the following: WBC, 14,100/ul with neutrophil predominant (76%); elevated serum C-reactive protein (CRP) of 11.59 mg/dL and erythrocyte sedimentation rate (ESR) of 103 mm/hr levels. Other biochemistry data, including liver and renal function were normal. The urinalysis was normal. The chest film and computed tomography scan of the abdomen revealed no significant abnormalities. He received empiric antibiotics therapy under the impression of sepsis syndrome. However, his fever persisted despite antibiotic administration.

The thorough work up for the possible etiologies of FUO was performed with unremarkable findings associated with definitive infectious source. Gallium-67 inflammation scan was arranged and the image showed increased tracer accumulation over bilateral thyroid beds (Figure 1). Further work up for the thyroid function showed elevated free T4 (3.87 ng/dL, normal range: 0.89-1.78 ng/dL) and suppressed TSH (< 0.03 UIU/ml, normal range: 0.25-5.00 UIU/ml). Besides, the antinuclear antibody, anti-microsomal antibody, and anti-thyroglobulin antibody were all negative. The thyroid ultrasonography showed bilateral well defined heterogenous thyroid gland. The I-131 thyroid scan revealed low radioiodine uptake in thyroid region (Figure 2). Subacute thyroiditis was diagnosed. The fever disappeared under supportive treatment with propranolol and steroid therapy. The thyroid function tests returned to normal six months later.

Discussion

Our patient manifested with FUO for one month with leukocytosis, elevated CRP and elevated ESR. The suppressed level of TSH and the increased unbound thyroid hormone level confirmed the feature of thyrotoxicosis. The absent I-131 uptake, elevation of thyroglobulin, negative anti-microsomal antibody and negative

anti-thyroglobulin antibody, and findings of thyroid sonogram suggestive of diagnosis of subacute thyroiditis.

Subacute thyroiditis (SAT), also called de Quervain's thyroiditis, is an uncommon but well documented cause of FUO. [3, 4, 5] It is a transient, inflammatory disease with association of pain of the thyroid and generalized somatic symptoms. SAT usually occurs in middle-aged women and follows systemic viral infection. Thyrotoxicosis develops during the initial inflammatory phase, followed by hypothyroid phase, and finally, the recovery phase. The overall age- and sex-adjusted incidence was 4.9 cases per 100,000/yr in one previous cohort study [6]. Most of the patients with SAT had typical clinical manifestations of fever and symptoms/signs of thyrotoxicosis. However, many SAT subjects did not present with typical clinical features and/or disease course. It is not easily diagnosed with the absence of typical manifestations of SAT. As comparing to those with typical SAT subjects, those atypical SAT had lower incidence of neck pain, abnormal thyroid function, autoimmune markers, and family history of thyroid disorders [7,8].

Asides from fever, local tenderness on thyroid glands is an important clinical clue leading to the diagnosis of SAT. Co-existence of FUO and atypical SAT (without thyroid tenderness) are rare and usual lead to delay diagnosis and management. Our case presented with clinical features of FUO and atypical SAT. It had been reported in the previous reports [9-10]. In this occasion, it might need other approaches to diagnose or differential diagnosis of SAT from other disorders, such as thyroid sonogram and fine needle aspiration [11], and gallium-67 imaging [12]. Furthermore, an old but simple Wayne's index is valuable tool in emphasizing the relative importance of certain clinical features of thyrotoxicosis [13]. It scores the patient according to their symptoms and signs, which may provide useful information among subjects with subtle manifestations of hyperthyroidism, although this index did not provide useful information in the present case (Wayne's index favored euthyroidism).

In brief, FUO is a clinical dilemma that caused by various etiologies. The extensive diagnostic evaluation is time-consuming and expensive. Atypical SAT is rare manifestation in FUO. This present case serves as a reminder that SAT should always be part of the differential diagnosis in FUO even with the absence of thyrotoxic manifestations.

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Figure 1. Gallium 67 inflammation scan

There is increased tracer accumulation over bilateral thyroid beds, inflammatory process (e.g. diffuse thyroiditis) might be considered.

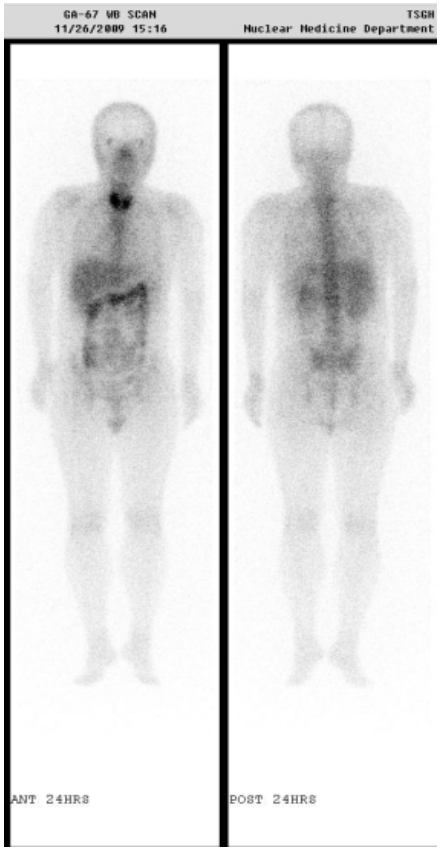
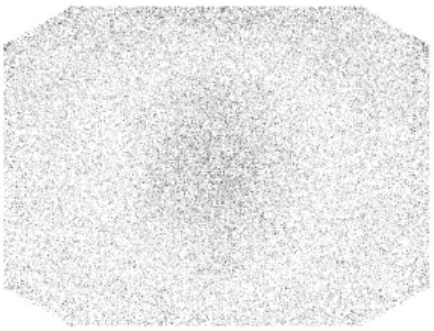


Figure 2. I-131 thyroid scan

Nearly none of radiotracer uptake throughout neck region was detected. Almost none of thyroid uptake was identified. The 24 hr RAIU was 2 % (Normal 24 hr RAIU：10 ~ 30%).



Anterior

Uptake= 2 %