

CASE REPORT

A case of prolonged fever and a diagnosis obscured by an opaque sinus

Velayudhan Menon, MD*, Lee Cheng Wai, MD**

*Clinical Associate Professor of Medicine, International Medical University, Malaysia, **Consultant Radiologist, Pantai Hospital Batu Pahat, Malaysia

SUMMARY

Prolonged fever in patients can be a diagnostic challenge. Clinicians generally consider infectious diseases, malignant diseases and collagen vascular diseases as possible causes of pyrexia of unknown origin (PUO). Even after extensive evaluation as many as 15 percent of patients with prolonged fever may remain undiagnosed. This case report describes subacute thyroiditis as a cause of prolonged fever and documents how that diagnosis was finally made after 40 days of fever.

KEY WORDS: *Fever of Unknown Origin; Thyroiditis, subacute*

CASE REPORT

A 60-year-old male developed low grade fever with fatigue, body pain and intermittent sharp pains deep in the throat, jaws, right ear, and anterior part of the neck. There was no cough, sputum, dysphagia, loss of appetite, vomiting, diarrhoea or urinary symptoms. He had been treated for pulmonary tuberculosis 10 years earlier. An ENT consultation revealed a deviated nasal septum and slight congestion of the posterior pharyngeal wall around the larynx. There was no post-nasal drip. There was no tenderness or swelling over the paranasal sinuses. Examination of the ears was normal. A full blood count showed normal values of haemoglobin, white cells and platelets. The ESR, however, was markedly elevated at 102mm/hour. Serological tests for dengue and influenza A and B were negative.

He was treated with oral Amoxicillin. He did not improve and was admitted in hospital for evaluation of Pyrexia of Unknown Origin (PUO) when fever persisted for more than two weeks. At the time of admission he had a temperature of 37.5 degrees Centigrade, a regular pulse rate of 104/min, blood pressure of 124/86mm Hg, and a capillary oxygen saturation of 98 percent while breathing room air. He had lost 3kg in body weight since the onset of fever. Clinical examination was normal. Investigations showed a normal full blood count and an elevated ESR (100mm/hour). His Mantoux (PPD) test was positive (20mm induration). Other biochemical tests were normal. Blood and urine cultures did not grow any organism. A CT scan of the paranasal sinuses was ordered because of the history of pain in the throat and ear. It showed an opaque right maxillary sinus (Fig. 1). His chest x-ray and high resolution CT scan of chest did not show any evidence of active pulmonary tuberculosis. Abdominal ultrasound showed no abnormality.

The fever was attributed to right maxillary sinusitis even though there was no pain, swelling or tenderness over the sinus. Under general anaesthesia the patient underwent cleaning of the maxillary sinuses with drainage of a small amount of purulent fluid from the right maxillary sinus. The fluid did not grow any organism and was negative for acid fast bacilli on smear examination. His deviated nasal septum was repaired. He was prescribed Tablet Cefuroxime 500mg BD for 14 days.

Low grade fever persisted even after this. The recorded temperatures during this post-operative period ranged from 37.5 to 37.9 degrees Centigrade. His tachycardia persisted with a heart rate of 102 per minute. There was no increase in his body weight even though he reported that his appetite was good and that he was eating well. His ESR remained high at 100mm/hour. Post-operative examination of the maxillary sinuses using a flexible camera showed that the maxillary sinuses were clear. He was then investigated for an occult malignancy. Serum Alpha-fetoprotein, carcinoembryonic antigen, prostate specific antigen, and CA 19-9 were tested. All values were within normal limits. The patient refused an endoscopic evaluation of his upper and lower gastrointestinal tracts.

On Day 40 of his fever, a small, firm, slightly tender nodule on the right side of his neck was detected. The nodule moved with deglutition. An ultrasound of the thyroid gland showed an enlarged right lobe of the thyroid with coarse echotexture suggestive of thyroiditis (Fig. 2). His thyroid function test showed a significantly low TSH value with normal values of thyroid hormones, T3 and T4. The diagnosis was revised to subacute thyroiditis and he was started on anti-inflammatory therapy with Tablet Celecoxib. He improved dramatically and remained afebrile from that point onwards. Two weeks later his ESR dropped to 37mm/hour and his thyroid function showed a hypothyroid state with low serum T3 and T4 and an elevated serum TSH. Three months later his weight had returned to normal and his ESR was 27mm/h. The serum T3 and T4 were now normal but the serum TSH remained elevated.

DISCUSSION

This case highlights the importance of a good clinical examination and a proper analysis of the data obtained from history and physical findings. It also emphasises the importance of evaluating thyroid function in patients with fever, tachycardia and loss of weight. Subacute thyroiditis is an uncommon cause of prolonged fever^{1, 2} but this case report makes us aware that this is a diagnosis to be considered in patients with fever of unknown origin.

This article was accepted: 3 April 2014

Corresponding Author: Velayudhan Menon, International Medical University, Internal Medicine, 12, Jalan Indah, Taman Sri Kenangan, Batu Pahat, Johor, 83000, Malaysia Email: velamenon@gmail.com



Fig. 1: CT scan of paranasal sinuses showing opacity of right maxillary sinus.

Subacute thyroiditis is also called de Quervain's thyroiditis, granulomatous thyroiditis or viral thyroiditis. It is often attributed to a viral infection of the thyroid gland³ and the thyroid gland's immunological response to the viral infection⁴. Hyperthyroidism followed by hypothyroidism is the usual pattern in this illness. The thyroid gland usually recovers its normal function after a variable period of weeks to months. Relapses can occur and sometimes there will be persistent hypothyroidism. Symptomatic treatment is with anti-inflammatory drugs and, if necessary, corticosteroids. Anti-thyroid drugs during the hyperthyroid phase are not recommended because the hyperthyroidism results from release of stored thyroxine and not from increased synthesis of thyroid hormones.

CONCLUSION

This 60-year-old man had prolonged fever, a high ESR, a positive Mantoux (PPD) test, loss of weight, and an opaque right maxillary sinus. Initially the doctors treating this patient attributed his illness to an infection of the right maxillary sinus. However, when fever and the elevated ESR persisted in spite of treatment for the maxillary sinusitis, they began to search for an occult malignancy. The doctors rightly did not treat this

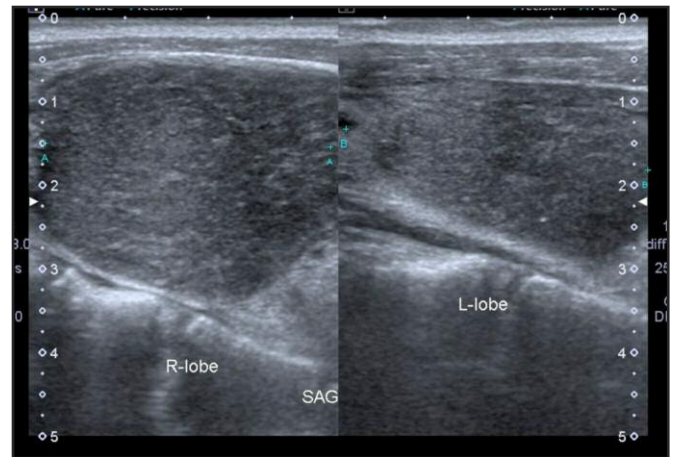


Fig. 2: Ultrasound of the thyroid gland showing an enlarged right lobe of thyroid with coarse echotexture.

patient with anti-tuberculosis drugs because, in spite of the positive Mantoux (PPD) test, there was no evidence of active tuberculosis. The true nature of the illness revealed itself when an enlargement of the right lobe of the thyroid was detected. The diagnosis was missed in the early stages of the illness because the opacity in the right maxillary sinuses proved to be a red herring. In retrospect, the pain in the anterior neck, throat, and ear, can be recognised as referred pain from the thyroid. The persistent tachycardia out of proportion to the fever and the loss of weight in spite of a good appetite were also pointers to a disease in the thyroid gland.

REFERENCES

1. Varkey A., Kurien T. T., Chattopadhyay A. An uncommon endocrine cause of pyrexia of unknown origin. *J Assoc Physicians India.* 2009; 57: 527-528.
2. Sambit Das. Subacute thyroiditis: An uncommon cause of fever of unknown origin. *Indian J Endocrinol Meta.* 2012; 16: 340-341.
3. Cunha B.A., Berbari N. Subacute thyroiditis (de Quervain's) due to influenza A: Presenting as fever of unknown origin (FUO). *Heart Lung: The Journal of Acute and Critical Care.* 2013; 42 (1): 77-78.
4. Volpe R., Row V.V., Ezrin C. Circulating viral and thyroid antibodies in subacute thyroiditis. *J. Clin. Endocrinol. Metab.* 1967; 27(9) :1275-1284.