

Case Report

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## Acute Suppurative Thyroiditis: A Case report and Review of Literature.

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### Keywords

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### Abstract

Acute suppurative thyroiditis is not a common clinical entity in adults that otolaryngologists see in their day to day practice. Thyroid gland is usually resistant to infections because of its rich lymphatic and blood supply and high intrinsic iodine content. Here we present a case of acute suppurative thyroiditis in a middle aged man who presented with a painful neck swelling. Clinical examination and fine needle aspiration cytology (FNAC) clinched the diagnosis.

### Introduction

Acute suppurative thyroiditis is an uncommon affliction of the thyroid which we otolaryngologists don't see regularly. Thyroid gland is well known to resist infections by rich blood supply and lymphatic drainage, high glandular content of iodine which can be bactericidal and separation of the gland from other structures of the neck. [1] Acute suppurative thyroiditis is a rare disease usually occurring in 20 to 40 years age group and more so in females. [2] The disease is associated with pain in the neck and fever and painful swallowing and a tender neck swelling. [3] Here we present an uncommon case of acute suppurative thyroiditis in 43 year old male patient.

### Case Report

A 43 year old male patient presented with the complaint of painful neck swelling for the last ten days with associated difficulty in swallowing and mild fever. He also complained of a head cold associated with it. On examination there was a 2 cm diameter firm and tender swelling on anterior midline in the position of the left lobe of the thyroid gland. (Fig.1)

The swelling moved with deglutition but not with tongue protrusion. On palpation there was no other neck swelling or lymph nodes in the neck. The other examinations of the ear, nose and throat were within normal limits. Pulse rate was 130 per minute and blood pressure was 140/90 mm of mercury. Other general examinations were within normal limits.



Fig.1 Swelling in the anterior midline in the position of the left lobe of the thyroid gland.

Complete blood count (CBC) showed normal blood count except for neutrophilia. Other biochemical tests like blood sugar, urea, creatinine were within normal limits. Thyroid profile was also normal i.e. the patient was euthyroid. FNAC yielded 1 cc of brownish fluid. Smear showed plenty of degenerating neutrophils with a few thyroid follicular cells. FNAC was suggestive of acute suppurative thyroiditis. Ultrasound of the neck showed a cystic lesion in the left lobe of the thyroid gland. Barium oesophgogram was normal and did not reveal any congenital tract from pyriform sinus and the thyroid lobe.

The patient was put on broad spectrum antibiotics for three weeks on which the swelling gradually subsided.

## **Discussion**

Acute suppurative thyroiditis was first described by Bauchet in 1857. [4] It was considered more common in the pre-antibiotic era. In this 21<sup>st</sup> century acute suppurative thyroiditis is a rare infection of the head and neck region. [5] Thyroid gland, due to its glandular iodine and hydrogen peroxide content and rich vascular and lymphatic supply, is especially resistant to infections. [6] Some authors believe that it is a consequence of a persistent congenital tract between the left pyriform sinus and the left thyroid lobe. Hence predisposition to acute suppurative thyroiditis may be due to presence of the embryogenic remnant of the third and fourth branchial pouch. This was first described in the Japanese literature. [7] In this case a barium oesophagogram was done which however did not reveal any such tract though the swelling was on the left. Neither did ultrasound reveal any such tract. In most cases the infection spreads through this congenital tract to the thyroid gland but it may spread by haematogenous and lymphatic routes too.

The ultrasonography findings of acute suppurative thyroiditis are not very clearly described in the literature, more over the hypoechoic shadows seen in this condition are also seen in subacute thyroiditis, haemorrhagic cyst, thyroid lymphoma and anaplastic carcinoma of the thyroid. So FNAC is one of the best tools for confirming the diagnosis of acute suppurative diagnosis. [8] In this case too ultrasonography of the neck revealed a cystic lesion with no surrounding neck node involvement. It was FNAC which clinched the diagnosis in this case too. Neutrophils, viable or degenerating among thyroid follicular cells, are the hallmark microscopic findings. [8] In our case too microscopic study of the smear showed plenty of

degenerating neutrophils among some thyroid follicular cells.

A preceding history of upper respiratory tract infection (URTI) may also be present. Left lobe involvement is more prevalent than the right thyroid lobe associated with leucocytosis, neutrophilia along with normal thyroid function tests. [9] In our case also there was a preceding URTI and head cold with tachycardia and raised blood pressure but normal thyroid function test. However some authors have found 12% of their patients having thyrotoxicosis and 17 % with hypothyroidism. [10]

## **Conclusion**

If left untreated acute suppurative thyroiditis may progress to life threatening complications like abscess and septicaemia. A broad spectrum antibiotic for a few weeks is sufficient to treat this condition. FNAC is a simple and valuable investigation in promptly diagnosing this not so common disease and Otolaryngologists should keep an eye open for acute suppurative thyroiditis.

## **Compliance with Ethical Standards.**

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments and comparable ethical standards.


## **Conflict of Interest.**

The author does not have any conflict of interest

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