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Case Report

Thyroid Abscess in a Child

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ABSTRACT

Thyroid abscess is a rare disorder affecting the thyroid gland. The organisms which commonly affect are staphylococcus aureus and streptococci species, though some cases of klebsiella have been reported. The differential diagnoses for a painful thyroid is limited, with sub acute and chronic thyroiditis being the most often-encountered processes. Acute suppurative thyroiditis with abscess formation, although rare, is a formidable clinical scenario with morbid complications. This patient was successfully treated by incision and drainage after one attempt of percuteneous aspiration

Key Words: Thyroid abscess, Child, Surgical management.

INTRODUCTION

Thyroid abscess and acute suppurative thyroiditis form 0.7 to 1% among thyroid disorders.[1] Acute suppurative thyroiditis (AST) is a rare clinical event and an uncommon form of thyroiditis. The presentation of abscess in thyroid in a child is rare.[2] It is more common in females.[3] It usually presents as a painful swelling in the neck. The diagnosis is by clinical examination assisted by radiological features. The treatment is either a percutaneous aspiration or incision and drainage.

The thyroid gland has a unique resistance to infection, making abscess formation rare. These include - total encapsulation of the gland, its secluded anatomic position, an iodine-rich environment, extensive lymphatic drainage, and rich blood supply. These provide protection by hindering the invasion of bacteria and its subsequent growth. Haematogenous spread from a distal site of infection is believed to be a common cause of thyroid infection. However the exact infectious source or pathway is frequently unknown. [3] The other causes for thyroid abscess include fine needle aspiration cytology, foreign bodies and congenital thyroid pathologies like pyriform sinus fistula. [4]

If left unchecked, the thyroid abscess portends to a dismal clinical outcome. Complications of this infectious process result in destruction of the thyroid or parathyroid glands, internal jugular vein thrombophlebitis, either abscess rupture or

fistula formation into the esophagus or trachea, local or hematologic spread to other organs, and sepsis. Management involves surgery with either lobar excision or debridement, resection of a fistulous connection if applicable, combined with culture-appropriate antibiotics.[5] Because this disease entity is rapidly progressive and often delayed in its presentation, early recognition and intervention are necessary to curtail the morbid potential of the complications of this process.[6]

The management of thyroid abscess consists of percutaneous aspiration and incision and drainage. Percutaneous aspiration may need several attempts for disease clearance.[7, 8] Incision and drainage of the abscess gives good results. Culture and sensitivity of the pus followed by sensitive antibiotics helps in clearance of the disease.

CASE REPORT

A one year 10 months old male child presented with history of high degree fever with tender neck swelling since 5 days. There was no history of upper respiratory tract infection or ear infection. The patient did not respond to treatment with antibiotics and antipyretics. The neck swelling continued to increase in size. Clinical examination revealed that the patient was febrile. A tender circumscribed swelling in the neck, in the region of thyroid, which moved on deglutition but not on protrusion of tongue, was noted (Figure-1) .There was no respiratory distress or difficulty in deglutition. A provisional diagnosis of acute suppurative thyroiditis was made.

Figure-1 Circumscribed swelling in the neck.

Fig.-2 USG showing thick walled cystic lesion in the thyroid.

Ultrasonography (USG) of neck revealed a thick walled cystic lesion with thick turbid contents in the right lobe of the thyroid gland with a volume of 1.5ml (Figure-2).Laboratory investigation revealed anaemia (Hb-8.5gms/dl), leukocytosis (13,000cells/cu.mm) and raised ESR (50mm/after 1 hour). Percuteneous aspiration was done under ultrasound guidance. 1.5ml of pus was aspirated. The pus sent culture and sensitivity. There was no growth after 48 hours of incubation and test for AFB was negative.

The swelling started to increase in size. Repeat USG of the thyroid revealed a collection of 2ml in the cavity. The patient underwent incision and drainage under general anaesthesia where 4ml of pus was drained. (Figure-3) The patient was treated with intravenous antibiotics and antipyretics.

The patient improved symptomatically and was discharged. The wound healed at the end of 2 weeks during follow up.

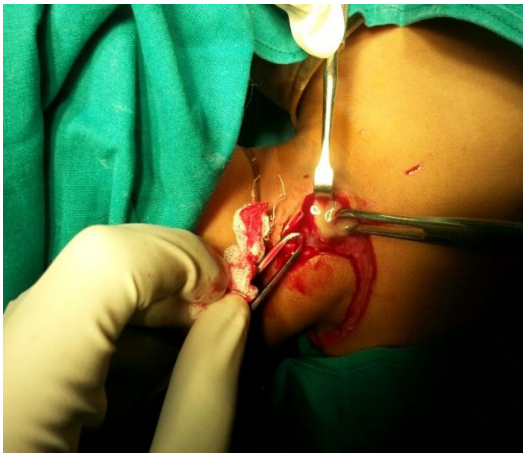

Figure-3. Incision and drainage of thyroid abscess.

DISCUSSION

Thyroid abscess is a rare clinical entity forming 0.7-1% of all thyroid disorder. [1] It can occur from 16 days after birth to 79 years. [3] It occurs more commonly in the females. It affects the left lobe of thyroid more commonly. In children congenital malformations like pyriform fistula are noted. [4] The index case was a male child of one year 10 months with right lobe involvement. The cause for the abscess could not be ascertained. The common organisms that affect are staphylococcus aureus, streptococci species. Some cases of klebsiella have been reported. [5] In this case pus did not yield any growth during the culture and the test for acid fast bacilli was negative.

Commonly laboratory investigation reveal leukocytosis, raised ESR. [6] Radiological investigations reveal shift of trachea on X ray of the neck.USG of the thyroid can reveal the site, size and the extent of the abscess. CT scan of the neck can reveal extension of the abscess retrosternally. Thyroid uptake studies reveal hypofunctional areas with decreased uptake. [9]

The index patient had anaemia, leukocytosis and raised ESR indicating bacterial infection.USG of the thyroid clearly defined the site and size of the lesion. So a CT scan was not done. Decision regarding the treatment was made based on USG report. Percutaneous aspiration of the thyroid abscess needs repeated attempts for disease clearance. The patient was a young child, so a USG guided aspiration was tried once. As the abscess recurred, incision and drainage under general anaesthesia was done. The patient recovered symptomatically after the procedure. The wound healed after giving broad spectrum antibiotics.

There was no complication of thyroid abscess in the index case.

CONCLUSION

Though thyroid abscess is rare clinical entity, the diagnosis can be made if the examiner has a high index of suspicion.USG of the thyroid can help in the decision making of the treatment. Incision and drainage followed by antibiotics can give complete clearance of the disease, decreasing the morbidity.

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