Sternocleidomastoid Abscess Mimicking a Thyroid Swelling in a Young Female

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Abstract
Primary pyomyositis is a bacterial infection of skeletal muscle with acute or subacute clinical course. This usually present with localized abscess. We report a case of an 18 years old female presenting with swelling in midline of neck moving with deglutition mimicking a thyroid swelling. On further investigation patient was confirmed to have sternocleidomastoid myositis. Previous case reports have showed various etiologies for development of abscess. After thorough examination and investigations, patient was found to have an idiopathic sternocleidomastoid abscess which responded well to empirical antibiotic therapy. This is a very uncommon condition and very sparsely reported and so far, to the best of our knowledge there is no case report from India.

Introduction
Pyomyositis, an intramuscular abscess of skeletal muscle, was first described in the tropics.¹ The pathogenesis most likely involves transient bacteremia in addition to prior or concurrent muscle damage. Staphylococcus aureus is the most common microorganism responsible for both tropical and temperate cases.¹ Here we present a case of sternocleidomastoid pyomyositis caused by unknown etiology (idiopathic).

Case Report
An 18-year female presented with a six day history of painful swelling of the anterior neck area with mild to moderate fever. Difficulty in movement of head and lethargy prompted her to seek medical attention. Her medical history was unremarkable. On admission, she had pulse 98 minute, blood pressure 102/70 mm Hg, temperature of 100 °F, BMI 21.94 kg/m². On examination she had raised body temperature and tender midline swelling in lower one third of anterior neck, 6.0×4.0 cm in size, fluctuant, not associated with any bruit or abnormal sound, moving with deglutition (Figure 1).

Ear, nose, throat and other systemic examinations were unremarkable. There was no history of trauma, surgery, ear infection, diabetes and other immunocompromised states.

Laboratory findings were Hb 10.5 g/dl, platelet count 1.30 lacs/mm³, total leukocyte count 12,000/µL with 82% neutrophils. Blood glucose, renal, hepatic, and thyroid function tests were within normal range and hepatitis B, C and HIV tests were nonreactive. USG neck showed thick necrotic pus beneath muscles. A computed tomography (CT) of the neck revealed a thick-walled collection (4 × 3.5 × 1.5 cm. in size) with internal debris in lower anterior neck involving pre-laryngeal, prethyroid regions and bilateral anterior triangles anteroinferiorly. She was admitted, abscess was aspirated and send along with blood for culture and sensitivity and empirical intravenous antibiotics (amoxicillin and clavulanic acid with metronidazole) and NSAIDS were started. Blood culture and pus culture sensitivity report came as sterile probably because our patient has taken antibiotics for 2 days prior to admission. A diagnosis of sternocleidomastoid abscess due to idiopathic etiology was made and patient gradually improved.

Discussion
Muscular infections frequently occur in areas of the body that have been compromised or injured by foreign body, trauma, ischemia, injection of illicit drug, malignancy or oropharyngeal infection; other causes include dental, sinus and ear infections (bezold abscess)³ or surgery. These infections can develop very rapidly to life-threatening systemic illnesses. The predominant pathogens are Staphylococcus aureus, Group A streptococci (GAS), gram-negative aerobic and facultative bacilli, and the indigenous aerobic and anaerobic cutaneous and mucous membranes local microflora.

A recent report by Luo and Liu⁴ demonstrated two cases of neck abscess and necrotizing fasciitis caused by Salmonellaenteric serotype Enteritidis in diabetic patients. Pyomyositis, an intramuscular abscess of skeletal muscle, is often described in three stages. The first (invasive) stage results in bacterial seeding into the muscle without abscess formation. The second (suppurative) stage is characterized by abscess formation. Ninety percent of cases are recognized at this stage. The third (systemic) stage is characterized by sepsicaemia, metastatic disease, and confers a high mortality.⁵ Diagnosis must be confirmed by ultrasound, CT scan, or magnetic resonance scanning. Treatment of stage 1 includes antibiotics alone; for stages 2 and 3, incision and drainage in addition to antibiotics is recommended. Prognosis with treatment tends to

Fig. 1: Swelling in lower third of neck right side

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be quite good. The most frequent locations include psoas, quadriceps, and buttock muscles. Location in the neck has been reported in 0.4%.\(^7\) It has been postulated that fibronectin binding receptors on muscle cells may be the route for bacterial entry and that prior muscle injury facilitates the development of pyomyositis. However, in this case, even after meticulous search, we were not able to discern any underlying cause for development of abscess.

**Conclusion**

Appropriate examination and investigations can help to avoid misdiagnosis of conditions due to overlapping anatomic sites.

**References**