**Thoracic Mass in an Immune-Competent Child**

*Actinomycosis* is a rare, slowly progressive disease caused by filamentous gram positive bacteria called *Actinomyces*. The most common clinical forms of *Actinomycosis* are cervicofacial, thoracic and abdominal. However, thoracic *Actinomycosis* in children is a rare disease and is commonly confused with tuberculosis or malignant masses. We report a case of an immune-competent 8-year old girl who had left anterior chest wall mass which clinically and radiologically simulated a malignant mass. Computerized tomography (CT) guided trucut biopsy from the mass showed *Actinomycosis*, which was confirmed by histochemical stains.

An 8-year old, previously healthy female child was referred to the pediatric surgery unit at a tertiary care hospital for evaluation of left anterior chest wall mass. The child had history of fall on ground 3 weeks prior to her presentation, while she was playing. After the fall, she was complaining of pain and swelling in the left side of her chest and the swelling was getting larger in size. She had about 7 x 6 cm mass in the left para-sternal area, almost involving the whole left breast. It was mildly tender and non-mobile. Additionally, multiple dental caries were noticed. Other systems examination was unremarkable.

Chest wall sonography of the left breast showed an enlarged left breast with an underlying heterogeneous hypo-echoic, mildly vascular, intra-thoracic mass infiltrating the pectoralis muscle and left breast tissues causing enlargement of the left breast. A contrast enhanced CT scan was performed to assess the nature and extent of the mass. It revealed a heterogeneous, moderately enhanced mass extending from the left perihilar and para-cardiac region and through the intercostal muscles (Figure 1a). There was associated mediastinal and left hilar lymphadenopathy. There was no evidence of lung infiltrate or pneumonitis and it was mediastinal and thoracic involvement only. Keeping in view the age of the child and clinico-radiological picture, possibility of rhabdomyosarcoma was considered. CT guided biopsy showed exuberant histiocytic proliferation with acute and chronic inflammation and typical broom shaped colonies of *Actinomyces* on Periodic Acid-Schiff (PAS) stain (Figure 1b). The periphery was gram positive and the center is gram negative (Figure 1c).

Patient was referred to pediatric infectious disease consultant and was started on intravenous (IV) antibiotics.

CT scan was done after 6 months, which showed complete resolution of the mass without the need for surgical debridement (Figure 1d). The patient was also seen by dentist and extraction of decayed teeth was performed. *Actinomycosis* is a chronic supplicative granulomatous infection caused by non-acid-fast anaerobic *Actinomyces* spp. *Actinomyces* chiefly involves the cervicofacial, thoracic, and abdomino-pelvic areas. Cases of the thoracic type, involving the lung, pleura, and chest wall, make up 10 - 20% of all *actinomycosis* cases.1

*Actinomyces* species are normally present in the gums and are the most common cause of infection in dental procedures and oral abscesses. Many *Actinomyces* species are opportunistic pathogens of humans and other mammals, particularly in the oral cavity.

Pulmonary *Actinomycosis* is a difficult diagnosis. Sometimes even experienced clinicians land in misdiagnosis as tuberculosis, lung abscess or lung cancer.2 Associated pleural effusions tend to be small to moderate in size rather than massive. Very occasionally, pericardial effusion results from pericardial involvement or pericarditis.3

The mainstay in the treatment of *Actinomycosis* is antibiotics with or without surgery. Penicillin is the antibiotic of choice, but if patient has penicillin allergy, clindamycin, tetracycline or erythromycin can be used. The antibiotic duration depends on the severity of illness. However, a longer duration of treatment with antimicrobial agents is usually necessary, since the premature termination of antimicrobial therapy may cause a relapse of *Actinomycosis*.4

Thoraco-pulmonary *Actinomycosis* is a rare but important and challenging diagnosis to make in pediatrics.
REFERENCES


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