

## CASE REPORT

## Cold Abscess on the Anterior Chest Wall - A Case Report

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The majority of cold abscess of chest wall are secondary to tuberculous intercostal lymphadenitis. A minority are associated with Pott's disease of spine and tuberculosis of ribs or sternum<sup>1</sup>. Intercostal lymph nodes are situated posteriorly near the neck of the rib or anteriorly along the internal mammary vessels. Tuberculous pus formed in these sites may travel a considerable distance in the intercostals space before becoming subcutaneous. It usually reaches the superficial tissue by following the lateral and anterior branches of intercostal vessels and thus most commonly present in anterior axillary line and para-sternal region. Involvement of skin and its rupture is common in neglected areas, resulting in a persisting discharging sinus surrounded by typical tuberculous granulation tissue<sup>2</sup>.

**Case report :**

A 44 years old man was admitted in the Department of Surgery of Holy Family Red Crescent Medical College Hospital with the complaints of swelling over the chest, fever, anorexia and weight loss for about 10 months. The patient explained that he was quite well ten months back. After that a swelling developed over the sternum which was about 12 cm by 8 cm in size. That swelling was

painless and non-tender. Gradually the swelling enlarged and extended over the anterior chest wall. There was another swelling in the left axillary fold which was 6 cm by 6 cm in size. The patient also complained of low grade irregular fever of insidious onset. The fever was not associated with chill or rigor, but sometimes associated with night sweating. The patient also gave history of anorexia and weight loss. After admission, fine needle aspiration (FNA) of the swelling was done and pus was sent for culture and sensitivity, and AFB staining. Other routine investigations were also done. Significant findings from these investigations were lymphocytosis, raised ESR, and multiple calcified shadow of variable size and shape involving both lungs fields in chest skiagram. Subsequently, incision and drainage of the swelling was done under general anaesthesia, the tissue of the abscess wall was sent for histopathological examination.

Histopathological report showed caseous necrosis and granuloma consisting of aggregation of epithelioid cells, giant cells and few plasma cells. The diagnostic remark was chronic granulomatous inflammation suggestive of tuberculosis. The patient was started with anti-tubercular chemotherapy by four drugs (rifampicin, INH, pyrazinamide and ethambutal). Gradually and his condition improved, the wound healed completely, his weight increased by about 2 kg within two weeks. He was advised to continue anti-tubercular drugs and for regular follow at outpatient department.

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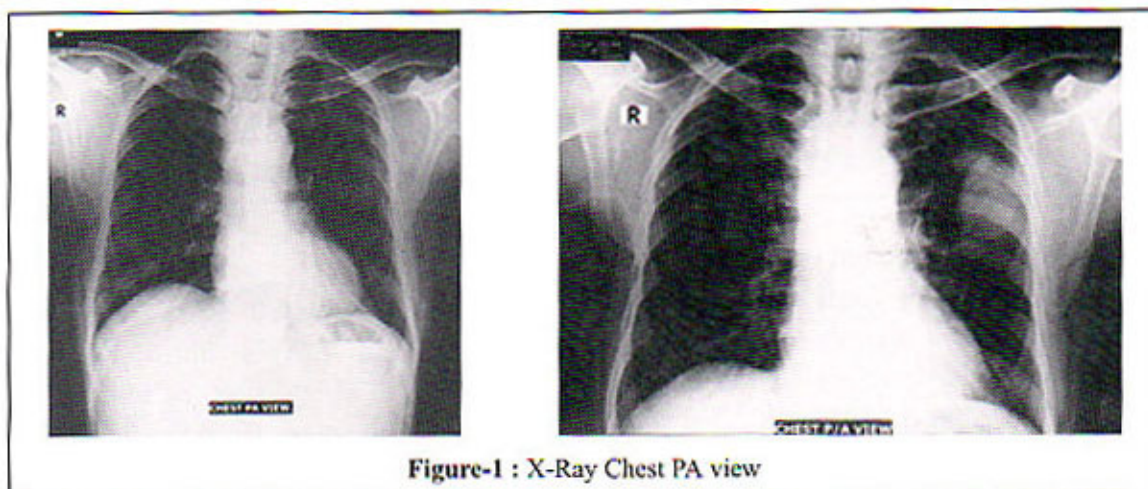


Figure-1 : X-Ray Chest PA view

### Discussion :

Cold abscess, as its name suggests, does not produce hot and painful abscess as seen in pyogenic abscess. Brown indurations, oedema and tenderness are conspicuous by their absence. Cold abscess is almost always a sequelae of tubercular infection anywhere in the body, commonly in lymphnodes and bone. Caseation of lymphnodes form cold abscesses. Commonest sites of cold abscesses are in the neck and axilla. Sometimes cold abscesses are seen at the loin, at the back or at the side of chest wall. There are different sequelae of tuberculous infection of spine, ribs and posterior mediastinal lymphnodes. Cold abscesses may also originate from the ends of bones and joints, and then gradually come to surface through fascial plane<sup>3</sup>.

Cold abscess may be a sequelae of tubercular osteomyelitis. Tubercular osteomyelitis occurs following haematogenous spread from the primary focus in the lungs or in the gut<sup>4</sup>. In the spine, two adjacent vertebral bodies are usually involved [Pott's disease]<sup>2,5</sup>. The vertebrae collapse but the posterior structures remain intact, so the spine angulates into kyphos<sup>5</sup>. After an abscess forms, it may put pressure on to the spinal cord or the nerve

roots, and it also travels forward in pre-vertebral space. From there it follows fascia and, in case of low thoracic or lumbar tuberculosis, may follow the psoas muscle from its origin to insertion in lesser trochanter of the femur. There the pus may tract through the subcutaneous fat and discharge through the skin. There is little inflammation because the abscess cavity is remote from the point of discharge and therefore it is a cold abscess<sup>2,3</sup>.

Cold abscess may also be a sequelae of tubercular adenitis<sup>3</sup>. In most instances, tubercular bacilli gain entrance through the tonsil causing lymphadenopathy in the corresponding site. The process is limited to clinically affected group of lymphnodes, but primary focus in the lungs or other sites must always be suspected and investigated. Rarely, patient may develop a natural resistance to infection and nodes may be detected at a later date as evidenced by calcification on radiography. This can also be seen after appropriate general treatment of tuberculous adenitis. If treatment is not instituted, the caseated node may liquefy and breakdown with formation of cold abscess in the neck. The pus is first confined by deep cervical fascia but after few weeks or months this may



become eroded at one point and the pus flows through a small opening into the space beneath the superficial fascia. This process has now reached the wellknown name of "collar stud" abscess<sup>2,6</sup>.

Cold abscesses may be found on other areas of body surface. Purulent form of tuberculous peritonitis is a rare variety of peritonitis. Usually it occurs secondarily to tuberculous salpingitis. Sizeable cold abscess often form and point on the surface-commonly near umbilicus or burst into the bowel. Prolong anti-tubercular treatment and operative treatment may be necessary for evacuation of cold abscesses<sup>3</sup>.

Treatment with triple therapy consisting of rifampicin 600 mg, isoniazid 300 mg, and pyrazinamide 1500 mg a day given orally for at least 2-3 months is the standard chemotherapy at the present time. It is followed by six months combination therapy with two agents (rifampicin+isoniazid). The treatment may require repeated careful assessment<sup>3,4</sup>. Multidrug resistant tuberculosis (MDR-TB) is a matter of great concern today. This may arise as a result of poor compliance with the treatment. Although some drugs are available to treat this condition, patients with underlying immunosuppression often fail to respond causing a serious threat to the patient like those with HIV-infection. Several outbreaks have been described among AIDS-sufferers and a number of health care workers have been infected. Drugs that may be useful in the treatment of MDR-TB include ethionamide, ofloxacin, capreomycin and cycloserin<sup>2</sup>.

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