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RESEARCH ARTICLE

TUBERCULOUS GLUTEAL ABSCESS MIMICKING INJECTION SITE ABSCESS

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ABSTRACT

Tubercular abscess is usually an extension from the underlying lymph node or bone, but occurrence at the site of intramuscular injections is rare.[1] We present one such case of tubercular abscess mimicking injection site abscess.

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INTRODUCTION

Tuberculosis is a widespread, infectious disease caused by various strains of mycobacteria, usually *Mycobacterium tuberculosis* (Kumar, 2007) One-third of the world's population is thought to have been infected with *Mycobacterium. tuberculosis* and new infections occur in about 1% of the population each year (World Health Organization, 2010). India has the highest burden of Tuberculosis in the world, an estimated 2 million cases annually, Accounting for approximately one fifth of the global incidence. It is estimated that about 40% of the Indian population is infected with Tuberculosis bacteria, the vast majority of whom have latent rather than active Tuberculosis disease. It is also estimated by the World Health Organisation (WHO) that 300,000 people die from Tuberculosis each year in India.This statistic itself confers the urgent need to find more prompt diagnostic and treatment protocols for treatment of tuberculosis- pulmonary or extra-pulmonary. Cutaneous tuberculosis is a rare form of extra-pulmonary tuberculosis[4] and constitutes only about 0.11% to 2.5% of all patients with skin diseases.

Case History

A 20 year old female presented with complaints of swelling in the right gluteal region since 1 month. Swelling was associated with pain, intermittent throbbing in nature. She had no complaints of fever, cough, hemoptysis, and vomiting or weight loss. Patient gave history of intramuscular injection in the right gluteal region 1 1/2 months back for fever at local practioner. Patient had past history of pulmonary tuberculosis 5 years back for which she took anti tubercular treatment for 1 year.

Patient did not have any significant past medical or surgical history or any family history. On local examination, there was a right gluteal swelling measuring 4 x 4 cms in size with localized erythema. Swelling was tender but with no local rise in temperature. Surrounding skin showed induration. Clinical diagnosis of an abscess over right gluteal region was made and after routine workup patient was posted for Incision & Drainage of abscess. Routine investigative workup showed borderline increase in white blood cells (TLC-9000/cmm) with elevated ESR of 105 mm/hr. All other investigations were within normal limits. Chest radiograph showed bilateral pleural thickening.

Intra operatively, approximately 30 ml of pus drained with all loculi broken and abscess cavity scooped. Pus sent for Pus C/S and scooped material sent for histopathological examination. Histopathology report was suggestive of tubercular infection. Pus C/S revealed no growth. Patient was referred to TB Chest Department and started on AKT CATEGORY II under RNTCP.

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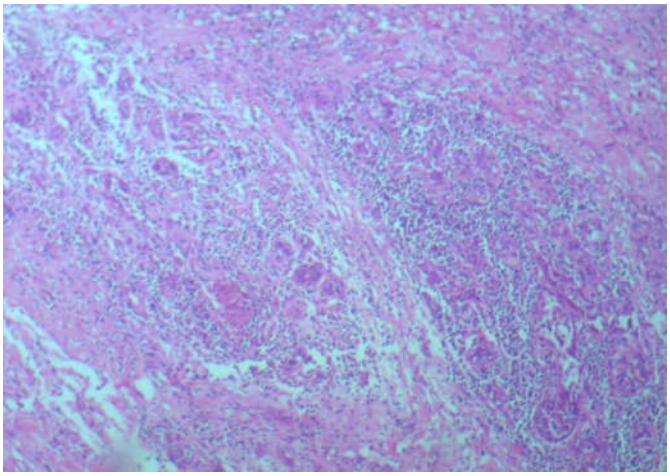

Histopathology slide showing tubercular granulomatous inflammation.

DISSCUSION

Cutaneous tuberculosis is essentially an invasion of the skin by *Mycobacterium tuberculosis*, the same bacteria that cause Tuberculosis of the lungs (pulmonary TB). Cutaneous Tuberculosis is a relatively uncommon form of extrapulmonary Tuberculosis (Tuberculosis infection of other organs and tissues). Even in countries such as India and China where Tuberculosis still commonly occurs, cutaneous outbreaks are rare (<0.1%). Cutaneous Tuberculosis describes dermatological manifestations of Tuberculosis involving the skin, which can be caused by Mycobacterium tuberculosis, Mycobacterium bovis**,** and the BCG vaccination. These lesions can be acquired exogenously or endogenously, although the former is significantly less common. Tuberculosis is one of the most common, rampant infectious diseases in underdeveloped countries, and the number of cases in industrialized countries has increased in recent years as a result of the increased incidence of HIV infection and increasing multidrug resistance (Tucker, 2012). Although Cutaneous Tuberculosis is reported as less than one percent of all cases of Tuberculosis, it is important for practitioners to consider this infection when faced with a suggestive clinical picture (Rai, 2005).

Subcutaneous tuberculosis associated with cold abscess results from direct extension of an underlying focus such as lymph node, bone or joint to the overlying skin, which presents as firm painless subcutaneous nodules that lead to the formation of ulcers and sinus tracts or abscess cavities, as in our case. The areas of predilection are the neck, supraclavicular fossa, axilla and groin. Tubercular abscess usually occurs by direct extension from the neighboring joint or rarely by haematogenous or lymphatic spread from the infection in pulmonary or extra-pulmonary site, though a primary focus may not be detected in every case. Post-injection tubercular abscesses are very rare and theoretically occur in two ways. Firstly, through a primary inoculation, if the organisms are introduced by contaminated injection material or instrument, which is usually rare. The second and common pathogenesis is seen in patients who have recently contacted primary infection and during this early stage, a number of bacilli reach the blood stream, either directly from the initial focus or via regional lymph node and thoracic duct (Kovats, 1955). Diagnosis of Cutaneous Tuberculosis is complicated and requires a full work-up, including a detailed history and physical examination; careful consideration of clinical presentation. The diagnosis is usually made or confirmed by characteristic histopathological features on skin biopsy. Typical tubercles are caseating epithelioid granulomas that contain acid-fast bacilli. These are detected by tissue staining, culture and polymerase chain reaction (PCR).

Other tests that may be necessary include:

- Tuberculin skin test (Mantoux or PPD test)
- Sputum culture or purulent fluid culture (it may take a month or longer for results to be reported)- most reliable method
- Chest X-ray & other radiological tests for extrapulmonary infection.
- Interferon gamma release assays (IGRA)

Often, there is a delay in the diagnosis because Cutaneous Tuberculosis is not always considered in the differential diagnosis of atypical or non healing skin lesions. It is imperative that physicians have a high index of suspicion in high-risk patients and in atypical presentations. Cutaneous Tuberculosis treatment is the same as that for systemic Tuberculosis and consists of long, multidrug therapy. First, the chemotherapeutic treatment of Tuberculosis is divided into two phases: 1) an intensive or bactericidal phase, designed to rapidly reduce the total body burden of Mycobacterium tuberculosis; and 2) a continuation or sterilizing phase.

The most commonly used drugs are isoniazid, rifampin, pyrazinamide, and either ethambutol or streptomycin. The continuation or sterilizing phase is given to eradicate the remaining bacteria that resist the initial intensive or bactericidal phase (National Tuberculosis Controllers Association, 2005). Several considerations must be made prior to multidrug therapy in order to tailor the treatment to an individual patient. Considerations include 1) overall general health condition, including the immunity level of the patient; 2) the type of cutaneous involvement; 3) the stage of the disease; and 4) patient compliance with the duration of treatment and possible medication side effects. Adherence with treatment is especially important as improper use of anti-Tubercular therapy can contribute to unwanted treatment side effects and the development of drug resistance that further facilities the spread of disease. Directly observed treatment involves observed therapy by personnel from the public health department to help increase patient adherence and control an infection that is a public health concern.

Conclusion

Tuberculosis is a serious infection that affects many people worldwide, with a recent increasing prevalence especially in high-risk patients, such as those from endemic countries, in an immunocompromised state, with a history of previous tuberculosis infection, and/or with multiple co morbidities. Although the incidence of Cutaneous and subcutaneous TB is rare, it should be considered in patients presenting with

atypical skin lesions suggestive of an underlying infectious etiology. It is imperative that physicians need to keep the possibility of a diagnosis of cutaneous tuberculosis in order to quickly and effectively diagnose and treat these substantially morbid skin conditions. This case report demonstrates the importance of a proper history and physical examination as well as diligent laboratory and diagnostic testing in determining the etiology of a suspicious skin lesion. Prompt consideration leads to a swift diagnosis and proper treatment resulting in high patient satisfaction. In conclusion, for any swelling/ sinus or cyst at an injection site presenting without any signs of inflammation, and not responding to antibiotics, a possibility of cutaneous tuberculosis should be kept in mind.

Conflict of interest

The authors declare that they have no conflict of interest related to the publication of this manuscript

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