



## Perianal Tuberculosis: A Rare Case Report and Review of Literature

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### Abstract

**Purpose:** A case of anal tuberculosis with anal ulceration is presented. The clinical features and the diagnostic problems along with increasing incidence of new cases of tuberculosis are discussed.

**Methods:** The diagnosis, management and outcome of an adult male patient, who resented with perianal lesions are described.

**Results:** On a four drug anti-tuberculous regimen, the symptoms improved and perianal lesions healed.

**Conclusion:** Anal tuberculosis although extremely rare, can be manifested in various forms. A high index of suspicion of tuberculosis should be borne in mind in all cases of perianal lesions with vague etiology or with diagnostic problems, which should be confirmed by histological and bacteriological analysis and treated specifically.

**Key Words:** Anal Tuberculosis, Anal Ulcer, Squamous Cell Malignancy.

### Introduction

TUBERCULOSIS was one of the first diseases to receive recognition and intelligent treatment. Hippocrates, in the fifth century BC, recorded that he was familiar with the various forms of tuberculosis. In the nineteenth century, Villemin deduced through a series of experiments, the contagious character of this entity. He inoculated many species of animals with sputum and other products from tuberculous lesions in man and cattle, and tuberculosis developed in all. In 1882, Koch isolated the specific bacillus, grew it in pure culture, and demonstrated its pathogenicity. Extra pulmonary tuberculosis or (TB) accounts for less than 15% of all cases of tuberculosis <sup>[1,2]</sup>, while the intestinal one constitutes less than 1% of extra pulmonary forms of the disease<sup>[3]</sup>.

Involvement of the appendix and jejunum is uncommon and the spread to the anus is much rarer <sup>[4]</sup>. The anoperineal region is rarely involved in tuberculosis and constitutes less than 1% of all intestinal involvements. Symptoms and signs of anal pain or discharge, as well as multiple or recurrent fistula in ano and perineal ulcerations, are not characteristically distinct from other anal lesions especially in Crohn's disease. In addition, tuberculosis of the gastrointestinal tract usually occurs as a result of a spread from tuberculosis foci in the lungs. Ingestion of the bacilli from sputum may lead to invasion of the intestinal wall. Positive diagnosis of anal TB relies on both histological and bacteriological assessments. Polymerase chain reaction (PCR) and culture confirm the diagnosis of TB as well.

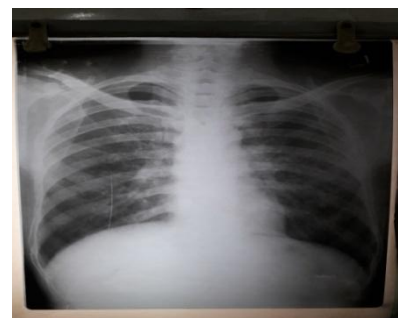
### Case Report

A 40-year-old Hindu man came to our opd on july 2016 with the complaints of anal and perianal ulceration, weakness, and loss of weight. Onset of the symptoms had occurred about four months prior to his visit to the hospital, at which time he had noticed weakness but had been particularly bothered by anal soreness, with occasional pain. He denied trauma to the anal region but did say that itching had caused him to scratch the area. A few days later an ulcer Fig. 1) developed close to the anus. It was tender and exuded a moderate amount of greenish-white mucoid secretion. The lesion gradually increased in size and eventually surrounded the anal aperture. During the intervening period, the patient underwent a weight loss of 15kgs.

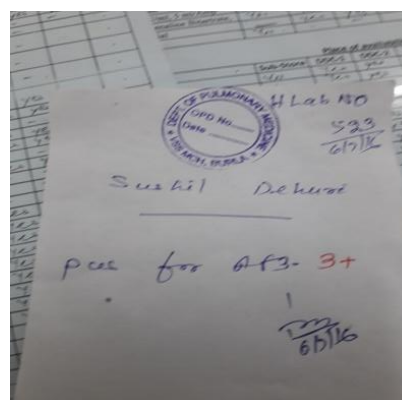


**Fig-1:** Ulcer in Perianal Region

On examination, he was pale, slim, afebrile. There was enlarged lymph node in the left groin measuring 2x2 cm with undermined edges. Local examination of the perineum showed a wide posterior ulceration of the anorectum in the midline extending about 3 cm into the anorectum and 6 cm externally from the anal verge and it was about 5 cm in breadth. Thickening, hyperkeratosis, erythema and scarring of the surrounding skin were also noted. On digital rectal examination, the anal sphincter was lax. No rectal mass was palpable. Initial blood tests showed Hb of 10.4gm and ESR of 140 mm. Viral serology was negative including HIV.

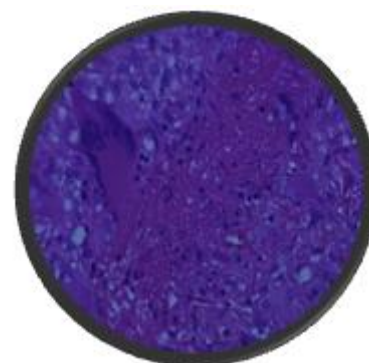


**Fig-2 :** Chest Xray

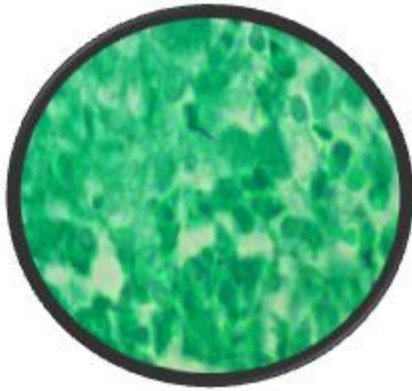


**Fig-3 :** Pus Culture Report

The chest x-ray was normal. The intermediate purified protein derivative (PPD) test was positive. Examination of the pus showed acid-fast bacilli +++. Culture swabs from the groin and perineal ulcer confirmed mycobacterium tuberculosis. A biopsy of the anal ulceration had ulcerative stratified squamous epithelium with acute necrotic slough and areas of caseation necrosis with epithelioid and Langhans' cells and no evidence of malignancy, features suggesting granulomatous inflammation.



**Fig-4:** HPE Smear Showing Granulomatous Inflammation



**Fig-5:Zn Stain Showing Acid Fast Bacilli**

Gastroscopy was normal. He was started on isoniazid, rifampicin, pyrazinamide, ethambutol and pyridoxine. The patient was followed up in the opd 5 months and by the second visit the inguinal lymph node was almost completely resolved. The perianal lesions showed marked improvement. He continued to improve, by 4 months all lesions were completely healed and he had put on some weight. Anti-tuberculous drugs are still continued to complete the course.



**Fig-6: After 2 Month**



**Fig-7: After 3 Month**



**Fig-8: Healed Ulcerative Lesion**

### Discussion

Anoperineal TB is commonly seen in men (4/1 ratio) and usually starting from the 4th decade of one's life. It occurs secondary to or coexisting with a pulmonary lesion which may be revealed later. There are four types of anal and perianal tuberculosis/ ulcerative, verrucous, lupoid, and miliary. Ulcerative Tuberculosis is most common form of anal tuberculosis is secondary to a focus in the lungs or intestines. On rare occasions it may be primary. The process begins insidiously as a small elevation, which breaks down to form a soft, shallow ulcer. The base is uneven, necrotic or hemorrhagic, and dotted with yellow tubercles. The ulcer tends to enlarge peripherally, often for months, without becoming deeper. Usually the anal ulceration appears indolent, with undermined irregular edges which may be blue or pale pink. The discharge is thick and mucopurulent, but may also be thin, of a whitish hue, possessing an offensive odor. A Tuberculous ulceration may cause very little discomforts

but it may be painful, especially when located in the anal canal and within the area governed by the sphincter muscle. Verrucous Variety is rare lesion and characterized by a warty *excrescence*. The wart-like vegetations slowly increase in size, and several may form, breaking down into ulcers with a profuse, purulent, and very irritating discharge. *Mycobacterium bovis* is the causative organism. Lupoid Variety lesion is secondary to tuberculosis elsewhere. It begins as a small, round, elevated patch or nodule, reddish-brown and somewhat soft. The center breaks down to form an irregular,

clean-cut ulcer having an indurated base covered with a mucopurulent discharge. Miliary lesions of the anus are always a part of an advanced and diffuse stage of tuberculosis elsewhere. Initially found at or below the intersphincteric line of the anus, the lesion begins in the hair follicles or in the sudoriferous or sebaceous glands of the skin and often manifests as millet-seed nodules beneath the epidermis. These lesions coalesce and cause necrosis of the overlying skin, resulting in small, cupshaped ulcers with shallow bases and ragged, indurated edges. Few other clinical conditions mimicking tuberculosis are hidradenitis suppurativa, Bartholinitis, radiation injuries, lymphomas, and antibiomas. The necessity of a careful study in differentiating the lesion from carcinoma could not be overemphasized<sup>[10]</sup>.

Differentiating between perianal tuberculosis and Crohn's disease may be difficult. For both conditions have certain similar features including colonic skip lesions, ileocaecal spread and granulomas on histological examination. These two diseases may be difficult to distinguish from each other by macroscopic evaluation. That is why, microscopic examination is needed. When tuberculosis is considered, a biopsy needs to be taken from the lesion; acid fast staining and polymerase chain reaction should be used for a rapid and accurate diagnosis. Finally, cultures are needed to confirm the diagnosis and susceptibility testing. The diagnosis of anal TB is difficult and may be unexpected. The tuberculin skin test remains a valuable guide because it is positive in 75 percent of cases, a negative tuberculin skin test in a patient who is not immunodepressed that is associated with a normal lung X-ray makes the diagnosis of anal TB improbable. Positive diagnosis depends on histologic or bacteriologic analysis. The histological lesion usually involves the epithelioid and giant cell tubercles around the zone of caseous necrosis, with the pathognomic feature being caseating the thing that is not constant. Differentiating the condition from Crohn's disease with anoperineal localization can be difficult if there is no

caseation or direct evidence of acid fast bacilli<sup>[19]</sup>. Bacteriological analysis is done by identification of Koch's bacilli by direct examination (Ziehl-Neelsen stain) and culture<sup>[9]</sup>.

The diagnosis is supported by the clinical response to an antitubercular therapy. The detection of mycobacterial DNA in clinical samples by polymerase chain reaction (PCR) is a promising approach for the rapid diagnosis of tuberculous infection, which can detect the presence of bacterial DNA in 48 h with high sensitivity and specificity when testing several samples<sup>[23]</sup>. The treatment of the anal tuberculosis is medical.

Surgical procedures are needed if there is a fistula or abscess<sup>[9]</sup>. The ulcerative lesions of the anus associated with tuberculosis regress in few weeks following the treatment.

### Conclusion

The possibility of anorectal tuberculosis must be considered when any patient has a chronic perianal lesion which fails to heal in response to the usual simple types of therapy. The treatment is twofold: surgical for the suppuration and medical for the tuberculosis with excellent results.

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