CLINICAL STUDY

Ano-perianal tuberculosis

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Abstract

A tuberculous origin must be considered when the cause of perianal lesion is unclear to avoid undesirable delay in the diagnosis and treatment. This brief treatise explores the different etiopathogenic, clinical, and diagnostic manifestations of ano-perianal tuberculosis *(Tab. 4, Ref. 40)*.
Key words: ano-perianal tuberculosis, perianal lesion, proctology.

Tuberculosis around the anus is a rare extra pulmonary form of the disease (1). It is necessary to recognize it due to a specific treatment. Tuberculosis can affect any part of gastrointestinal tract (GIT) from the esophagus to the anal canal. Though tuberculosis of GIT is frequently encountered in tropical countries, tuberculosis of bowel distal to ileocaecal junction is rare and is rarely considered as a differential diagnosis of proctological disorders (2).

Tuberculosis of gastrointestinal tract may be primary or secondary to a primary focus elsewhere (3). Primary intestinal tuberculosis is attributable to bovine tubercle bacilli entering the system through milk intake. The incidence of primary tuberculosis is declining due to a public preference of pasteurized milk.

While the rate of patients with extra pulmonary tuberculosis has increased in the last few years (about 5 % of all cases) displaying a wide spectrum of its clinical manifestations, the anal localization still is rare (0.7 %) according to available published data (4).

The most frequently observed anorectal tuberculous lesions are suppurations and fistulae (5). Tuberculosis is a neglected cause of anal sepsis, often unrecognized, and therefore does not get the desired treatment.

The presentation of the disease may have several forms, with atypical and non-characteristic clinical picture, which makes it difficult to diagnose preoperatively.

Few of the presenting features of ano-perianal tuberculosis are summarized in Table 1.

Tab. 1. Symptoms of ano-perianal tuberculosis.

1. Anal pain, fever and cough (6)
2. Anal or perianal ulcer with purulent exudates
3. A non-healing wound around the anus (7)
4. Anal fistula (8) (Usually recurrent with multiple external openings, gross scarring and induration)
5. Perianal cutaneous ulcerations (9)
6. Acute perianal abscess (10)
7. Bleeding anal ulcer (11)
8. Anal stricture (12)
9. Hemorrhoidal thrombosis with fever and purulent discharge (13)
10. As an associated anal lesion in HIV positive patient (14)

A digital examination is usually sufficient to diagnose an anal fistula. Nearly all fistulas are complex and secondary tracks or additional complications are common, even at first presentation (15).

Clinically, patients with anal tuberculosis may simulate carcinoma. These patients may present with per-rectum bleeding and pain while passing stools. Anal fissure in an unusual location, slow to heal, should be appropriately screened to rule out tuberculosis.

Tuberculosis can be a part of complicating infections in HIV-positive patients. Anal tuberculous sepsis seems to have characteristic clinical features. It should be considered in cases of known pulmonary or extra pulmonary tuberculosis or if anal sepsis is persistent, recurrent, or complex in nature (15).

Various forms of ano-perianal tuberculosis

Tuberculosis is known to manifest by many atypical and unexpected clinical presentations. These variables are also seen in

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Tab. 2. Various forms of ano-perianal tuberculosis.

Pilonidal sinus (16)
Anal ulceration with inguinal adenopathy (17)
Non healing ulcer at the anal orifice (18)
Recurrent perianal growth (Tuberculosis verrucosa cutis) (19)
Rectal stricture (20)
Anal fistula with tuberculous epididymitis (21)
Anal fistula with tuberculous salpingitis (22)
Anal fissure (23)
Associated with malignancy of anal canal (24)
Varicose anorectal tuberculosis (25)
Atypically localized scrofuloderma (26)
Anal stricture (27)
Rectal submucosal tumor (28)

the proctology practice. Few of the unusual forms of the tuberculous lesion are following in Table 2.

Investigations

Despite availability of several tests, early diagnosis of anal and perianal tuberculosis remains a challenge. In countries like India, establishing a diagnosis begins with routine tests as total leucocytes count, Erythrocyte Sedimentation Rate, Mantoux test, detection of acid-fast bacilli in discharge or in tissue section from the lesion. Thorough investigation might be needed to establish the presence of pulmonary tuberculosis. Clinical diagnosis usually depend on microscopic detection using Ziehl-Neelsen stain (6) and mycobacterial culture (7), but the sensitivity and specificity of these two methods are low. So, more specific tests are needed to give a definite conclusion.

A battery of investigative tools listed below is available to accurately diagnose this disease (Tab. 3).

The sero-diagnosis of tuberculosis has long been the subject of controversy, as we still lack a test with widespread clinical utility. The poor sensitivity and specificity of commercial assays preclude their use as the sole means of diagnosis. All these assays use mycobacterial antigens adsorbed onto a surface. There is a high possibility of false positive and false negative reactions (31). The overall sensitivity of these tests for extra pulmonary tuberculosis is as low as 16.7 % (32).

The relatively low sensitivity and specificity of these serologic tests make them poor tools for the diagnosis of tuberculosis. For the EIA-IgA, the sensitivity reported was 74 % and the specificity 68 % when a cut-off determined by a receiver operator characteristic curve was used. For the EIA-IgG, the sensitivity was 69 % and the specificity 64 % (37).

The simplest rapid method for the diagnosis of the disease is perhaps the detection of acid-fast bacilli by microscopy. However, 75 % of patients with extra pulmonary tuberculous disease are smear negative, and even contemporary culture methods might take several weeks to become positive (34).

Histological examination of the excised fistula is mandatory for the diagnosis of anal tuberculosis. In case of other perianal pathologies, ridge biopsy of the growth or histo-pathological study of an excised lesion helps in establishing the diagnosis (5, 7, 16).

Tab. 3. Investigation protocol for detection of ano-perianal tuberculosis.

1. Anal pain, fever and cough (6)
2. Anal or perianal ulcer with purulent exudates
1. Culture
2. Biopsy (29)
3. Examination of discharge for Acid Fast Bacilli
4. Fine needle aspiration cytology (30)
5. Mantoux test
6. ELISA test (31 – 32) (Tuberculosis IgA EIA, Pathozyme-TB complex, Pathozyme-Myco IgG, Pathozyme-Myco IgA, and Pathozyme-Myco IgM) to detect antibodies against Mycobacteria
7. Computerized Tomography (28)
8. Magnetic Resonance Imaging (33)
9. Fistulogram (8)
10. Molicular diagnosis by nested polymerase chain reaction (34)
11. Percutaneous transperineal sonography (35)
12. Rapid Immunochromatographic assay (36) (ICT Tuberculosis)

Clinical experience shows that a triad of FNAC, AFB smear, and culture are cheaper, foolproof, and confirmatory when compared to costlier tests like TB IgG, IgM, or ICT tests (30).

Differential diagnosis

Perianal cutaneous ulcerations in tropical countries have multiple causes: bacterial, viral, and parasitic. Infections, such as amoebiasis and actinomycosis have to be explored at first (9). Emphasis should be put on the diversity of clinical presentations including acute perianal abscess, chronic anal ulcer, and anal fistula. Due to nonspecific symptoms and non-characteristic radiological and endoscopic features, the diagnosis of tuberculosis remains mainly on histological evidence of a classical tubercle in a surgical biopsy specimen. Crohn's disease and tuberculosis are major diagnostic problems for clinicians where they coexist (38).

The necessity of a careful examination in differentiating the tuberculous lesion from carcinoma should be emphasized. Few other clinical conditions mimicking tuberculosis are following in Table 4.

Discussion

Though tuberculous involvement of the anus is declining as a result of BCG-vaccination, awareness of personal hygiene, and improvement of public health, it is still one of the common causes of granulomatous diseases within the anorectal region (1).

Tab. 4. Differential diagnosis of ano-perianal tuberculosis.

Hidradinitis suppurative (39)
Bartholinitis
Radiation injuries
Lymphoma
Antibiomas

It is speculated that tuberculous anal lesions are caused by the dissemination from the pulmonary focus via hematogeneous and lymphogeneous spread in few patients, while in others the lesion may be present in the gastrointestinal tract and rectum (6). A suspicion is important to ensure an early diagnosis.

Treatment of tuberculous lesions of anus should include conventional surgical treatment of anal sepsis and specific medical anti-tuberculosis treatment (40). Anti-tuberculous drugs have changed the dismal outcome for patients with ano-perianal tuberculosis. They have also made surgery safe and often curative. In most of cases, the patients are treated with combination of four anti-tuberculous chemotherapeutics (4).

It can be concluded that a tuberculous origin must be considered when the cause of anal and perianal lesions is unclear or when it is recurrent. Similarly, patients having perianal sepsis and a concurrent tuberculous lesion elsewhere should be suspected to have a tuberculous origin of lessions to avoid undesirable delays in the diagnosis and treatment (2).

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