

Gastrointestinal Tuberculosis with Anal and Perianal Involvement Misdiagnosed as Crohn's Disease for 15 Years

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Tuberculosis (TB) is an infectious granulomatous disease caused mainly by *Mycobacterium tuberculosis*, an acid-fast bacillus that is primarily transmitted via the respiratory system. TB remains a major public health problem worldwide, and is endemic in Iran (1).

Extrapulmonary TB accounts for 5–15% of TB cases (2, 3). Cutaneous TB accounts for only a small proportion (<1–2%) of all cases (4). Periorificial TB results from autoinoculation of mycobacteria into the periorificial skin and mucous membranes in patients with advanced TB (5). Anal and perianal TB has rarely been reported (2, 3).

CASE REPORT

A 52-year-old, heterosexual man presented with painful ulcerative anal and perianal lesions of 15 years' duration, with extension to the buttocks and perineum. He had a history of recurrent diarrhoea, severe weight loss, weakness and fatigue during this period. He was addicted to opium and a smoker.

During the 15 years since his symptoms first developed, the diagnosis of Crohn's disease had been suggested by several gastroenterologists, based on clinical and pathological findings, and the detection of anti-*Saccharomyces cerevisiae* (ASCA) antibodies in his serum. The administration of sulfasalazine had provided some relief from his symptoms. However, despite some periods of improvement, his lesions had never completely healed.

Clinical examination revealed ulcerative lesions, surmounted by multiple discharging sinuses and extending bilaterally from the anal region to the perineum and buttocks (Fig. 1).

A colonoscopy revealed numerous ulcers and adhesions in the sigmoid and descending colon, which in fact prevented assess-



Fig. 1. Ulcerative lesions, surmounted by multiple discharging sinuses and extending from the anal region to the perineum and buttocks, compatible with the diagnosis of periorificial tuberculosis.

ment of the other parts of colon. Histopathological analysis of multiple biopsy specimens from colon and skin lesions revealed chronic granulomatous reactions (Fig. 2a), while Ziel-Nielsen staining showed the abundant presence of acid-fast bacilli (Fig. 2b). However, their culture in Lowenstein-Jensen (LJ) medium, performed three times, was negative. PCR was not performed.

Chest radiography revealed an old calcified focus in the upper lobe of the right lung. Laboratory results indicated anaemia (Hb 9.5 g/dl), a raised ESR (42 mm/h) and the presence of ASCA (IgG and IgA both >10 U/ml). Mantoux test results were negative. Result of human immunodeficiency virus (HIV) testing was negative.

Eventually, the diagnosis of gastrointestinal and periorificial TB was suggested. We prescribed standard anti-TB therapy, consisting of isoniazid 300 mg, rifampicin 600 mg, pyrazinamide 1500 mg and ethambutol 800 mg daily, which was continued for 6 months. Follow-up after 2 months revealed significant improvement in the patient's symptoms, including depigmentation.

DISCUSSION

GI tract TB accounts for fewer than 1% of all proven cases of TB (3). The terminal ileum and ileocaecal region are the most common sites (6). In contrast, anal involvement is exceptionally rare (3). Anal TB is more common in males than females (4:1 ratio) and typically develops in the fourth decade, usually with pulmonary TB (3), like in our patient.

Clinically, perianal TB has been classified by Altnöz et al. (7) into four subtypes: ulcerative, verrucous, lupoid and miliary. Ulcerative TB is the most common type, usually occurring secondary to a focus in the lungs or intestine. The presented case displayed the features of ulcerative periorificial TB. Verrucous TB, caused by *M. bovis*, is characterised by warty vegetation. Lupoid TB occurs secondary to TB elsewhere in the body. It begins as a small, round nodule, reddish-brown in colour and somewhat soft. Gradually a clean-cut ulcer, develops in the centre of the nodule. Miliary lesions of the anus occur as part of disseminated TB, involving multiple organs (7). Rarely, anal TB manifests as a perianal abscess or haemorrhoidal nodules. Perianal TB is usually secondary to intestinal or genitourinary TB, developing through direct extension or haematogenous or lymphatic spread from regional lymph nodes (3, 5, 8). In our patient, according to the results of a chest X-ray, gastrointestinal involvement was secondary to pulmonary TB. His significant weight loss is thus not surprising.

Differential diagnosis of perianal TB includes malignancy, cutaneous amoebiasis, Crohn's disease, ulcerative colitis, herpes simplex, syphilis, deep mycosis and venereal lymphogranuloma (4, 6).

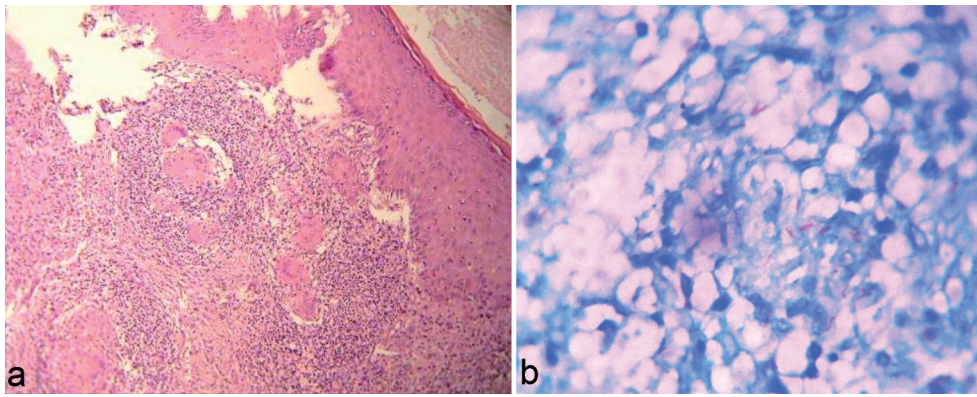


Fig. 2. a) Histopathological examination of a skin lesion, revealing a chronic granulomatous reaction (haematoxylin and eosin, $\times 10$). b) Ziel-Nielsen staining, showing the presence of multiple acid-fast bacilli.

The clinical, morphological and histological features of intestinal TB and Crohn's disease overlap to such an extent that it can be difficult to distinguish them (9). It has been proposed that ASCA, often present in the sera of Crohn's disease patients, may be potentially useful in differentiating the two conditions. However, two recent studies (9, 10) showed that serum ASCA is unlikely to be useful. Indeed, the detection of ASCA in our patient's serum probably misled gastroenterologists to diagnosis him with Crohn's disease, and not perform complementary investigations. Analogously, Hammoudeh & Khanjar (11) described a patient with a clinical course suggestive of seronegative spondyloarthritis who partially responded to sulfasalazine and nonsteroidal anti-inflammatory drugs, but who later proved to be suffering from TB. In our patient, sulfasalazine also partially improved the disease symptoms, guiding physicians away from the correct diagnosis.

Diagnosis of TB, especially cutaneous TB, by conventional laboratory methods is unreliable and time consuming. In one study, PCR produced the best detection rate (79.4%), followed by histopathology (73.5%), various cultures (29–47%) and smear examination (5.8%) (12). Based on this, the negative culture in our patient is not unexpected. In addition, sulfasalazine administration may have contributed to false negative cultures.

Tuberculin skin tests are long-established methods for screening for TB infections (13). Unreliable test results may be caused by various factors, including BCG vaccination, non-tuberculosis mycobacterium exposure, malnutrition, HIV infection (14), as well as the suppressive effect of TB infection on cell-mediated immunity (15). It appears that, in our patient, the effects of chronic TB, opium addiction and malnourishment on cell-mediated immunity are the most probable causes of the negative test result.

The first-line treatment for abdominal TB is medicine for 6 months. Surgery is reserved for patients who develop complications, such as obstruction, perforation or stricture formation (6). In the case of our patient, standard four-drug anti-TB therapy significantly improved his symptoms.

REFERENCES

1. Dadgarnia MH, Baragaranfar MH, Yazdani N, Kouhi A. Oropharyngeal tuberculosis: an unusual presentation. *Acta Medica Iranica* 2008; 46: 521–524.
2. Mylarappa P, Kudva A, Rao A. Perianal tuberculosis. *Indian J Tuber* 1997; 44: 209–210.
3. Candela F, Serrano P, Arriero JM, Teruel A, Reyes D, Calpena R. Perianal disease of tuberculous origin: report of a case and review of the literature. *Dis Colon Rectum* 1999; 42: 110–112.
4. Bravo FG, Gotuzz E. Cutaneous tuberculosis. *Clin Dermatol* 2007; 25: 173–180.
5. Meltzer M, Carol A Nacy. Cutaneous Tuberculosis [cited 2009 Jan 28]. Available from: <http://emedicine.medscape.com/article/1105317-overview>.
6. Yadegarynia D, Abbasi F, Keshtkar-Jahromi M, Gholamin S. Gastrointestinal tuberculosis with cecum involvement in a 33-year-old woman. *Iran J Med Sci* 2009; 34: 213–216.
7. Altınöz H, Köse E, Kula Ö, Keser B, Karagöz T. Pulmonary tuberculosis complicated by anal tuberculosis. *Turkish Resp J* 2003; 4: 142–143.
8. Ghosh SK, Bandyopadhyay D, Ghosh A, Mandal RK, Bhattacharyya K, Chatterjee S. Non-healing perianal ulcer: A rare presentation of cutaneous tuberculosis. *Dermatol Online J* 2009; 15: 9.
9. Makharia GK, Sachdev V, Gupta R, Lal S, Pandey RM. Anti-saccharomyces cerevisiae antibody does not differentiate between Crohn's disease and intestinal tuberculosis. *Dig Dis Sci* 2007; 52: 33–39.
10. Ghoshal U, Ghoshal U, Singh H, Tiwari S. Anti-saccharomyces cerevisiae antibody is not useful to differentiate between Crohn's disease and intestinal tuberculosis in India. *J Postgrad Med* 2007; 53: 166–170.
11. Hammoudeh M, Khanjar I. Skeletal tuberculosis mimicking seronegative spondyloarthritis. *Rheumatol Int* 2004; 24: 50–52.
12. Negi SS, Basir SF, Gupta S, Pasha ST, Khare S, Lal S. Comparative study of PCR, smear examination and culture for diagnosis of cutaneous tuberculosis. *J Commun Dis* 2005; 37: 83–92.
13. Shingadia D, Novelli V. The tuberculin skin test: a hundred, not out? *Arch Dis Child* 2008; 93: 189–190.
14. Black GF, Dockrell HM, Crampin AC, Floyd S, Weir RE, Bliss L, et al. Patterns and implications of naturally acquired immune responses to environmental and tuberculous mycobacterial antigens in northern Malawi. *J Infect Dis* 2001; 184: 322–329.
15. Menzies D, Pai M, Comstock G. Meta-analysis: new tests for the diagnosis of latent tuberculosis infection: areas of uncertainty and recommendations for research. *Ann Intern Med* 2007; 146: 340–354.