

Clinical Features and Treatment Outcomes of Perianal Tuberculosis at Vietduc University Hospital

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Abstract

Objective: Perianal tuberculosis (TB) is a rare form of extra-pulmonary tuberculosis. The aim of the present study is to describe the clinical features and treatment results of perianal tuberculosis.

Patients and Methods: We performed a medical records review of patients with confirmed perianal tuberculosis by histopathological examination or microbiological results treated at Vietduc University Hospital from 2012 to 2017.

Results: There were 15 patients, all of whom were male. Seven patients had a previous history of perianal surgery, 3 had immunodeficiency status, 7 with other tuberculosis lesions. The mean duration of illness was 16.5 months. Ten patients had complex anal fistula or abscesses, 13 patients underwent surgical treatment, and one patient underwent tumor biopsy. No recurrence was observed during the follow-up. Two patients had postoperative incontinence, 2 died of other causes (one due to multi-organ tuberculosis, the other of leukemia).

Conclusions: The diagnosis of perianal TB is based on postoperative histopathology and microbiology. Proctologists should be aware of this condition in patients with long-standing perianal lesions or patients with tuberculosis at other organs associated with perianal disease. Treatment includes anti-tuberculosis drugs and surgery.

Keywords: Tuberculosis, Perianal tuberculosis, Anal fistula.

INTRODUCTION

Tuberculosis (TB) is a world-wide epidemic. The World Health Organization estimated a global incidence of around 10 million new cases in 2017, and it is one of the top 10 causes of death in the world with 1.6 million deaths annually.^{1,2} Tuberculosis is mainly a pulmonary disease, and extra-pulmonary tuberculosis accounts for 5% to 15% of all cases. Perianal manifestation is very rare, constituting 0.7% of total TB cases.^{3,4} This number may be an underestimate because it is a challenge to

differentiate from other diseases such as Crohn disease, granulomatous disease, or other perianal infectious diseases.^{3,5} In 2018, according to WHO, Vietnam was among the top 20 countries with the highest TB incidence in the world with a prevalence of smear-positive tuberculosis of 133 per 100,000 population.² In Vietnam, there are currently no studies on perianal TB. We conducted a study of 15 patients with perianal TB to evaluate its clinical features and treatment outcomes.

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PATIENTS AND METHODS

The present study is a descriptive, retrospective medical records review of 15 patients with a diagnosis of perianal TB (exclusive of HIV patients), who were treated in the Center of Coloproctological and Perineal diseases at Vietduc University Hospital from 2012 to 2017. All cases were confirmed to have perianal TB by histopathological or microbiological examination. Information obtained from the records included demographic and clinical data such as age, sex, medical history, symptoms and signs, physical findings, laboratory and radiologic findings, treatment outcomes, and complications. All data were summarized using SPSS (version 20.0 for Windows).

RESULTS

From 2012 to 2017, there were 15 patients diagnosed with perianal TB in our department. Fourteen patients (93%) underwent an operative treatment, including 13 who underwent surgery for anal fistula or abscess, and one patient for tumor biopsy. All patients were confirmed to have TB by histopathology, and one patient was diagnosed by bacteriological culture results of pus from an abscess. We present a brief case report of one typical perianal TB patient.

A 53-year-old man with a history of hemorrhoids underwent treatment by unknown traditional medication. He was admitted to the hospital with symptoms of anal discharge and pain. On anal examination, a 4-cm solid ulcerative tumor was found. Histopathological examination of the proctoscopic biopsy specimen showed nonspecific granulomatous inflammation with pseudo-polyps. We decided to carry out a diagnostic and therapeutic definitive surgery. The final histopathological result confirmed a TB lesion. There were also associated TB lesions seen on chest radiographs. The patient was prescribed anti-TB drugs and recovered completely.

A summary of demographic and clinical data is presented in Tables 1 and 2. Coexisting tuberculosis at other organs is presented in Table 3. Details of operative treatment, hospital stay, complications and deaths are presented in Table 4. Some typical lesions of perianal TB are presented in figure 1, and radiological findings of perianal lesions and pulmonary TB are presented in Figure 2.

Table 1 Demographic features and underlying conditions

Demographic features	N = 15 (%)
Male gender (%)	15 (100)
Mean age \pm SD (range), years	46 \pm 20 (21 to 80)
Mean duration of illness (range), months	16.5 (1 to 144)
History of perianal operation (%)	7 (47)
History of pulmonary TB (%)	1 (7)
Underlying leukemia (%)	1 (7)
Corticosteroid usage (%)	1 (7)
Immunosuppression drugs usage (%)	1 (7)

Table 2 Clinical characteristics

Clinical symptoms	N = 15 (%)
Fever	5 (33)
Weight loss	3 (20)
Simple anal fistula	2 (13)
Complex anal fistula	4 (27)
Simple anal abscess	2 (13)
Complex anal abscess	6 (40)
Anal tumor	1 (7)

Table 3 Coexisting tuberculosis at other sites

Coexisting TB on other sites	N=15 (%)
Lung	5 (33.3)
Pleura	1 (7)
Knee joint	1 (7)

Table 4 Operative treatment and outcomes

Operation and outcome	N = 15
Fistulotomy (%)	8 (53)
Seton fistulotomy (%)	1 (7)
Abscess drainage (%)	4 (27)
Tumor biopsy (%)	1 (7)
Mean hospitalization \pm SD (range), days (N=14)	4.2 \pm 2.2 (2 to 9)
Postoperative incontinence (%)	2 (13)
Death (%)	2 (13)

All patients were given anti-TB drug regimen when the diagnosis of TB was confirmed. In Vietnam, patients with extrapulmonary TB are treated with anti-TB drugs protocol (DOTS) recommended by WHO and National TB prevention program guidelines.



Figure 1 Lesions at the perianal site: (A) anal fistula; (B) anal abscess; (C) solid ulcerative tumor

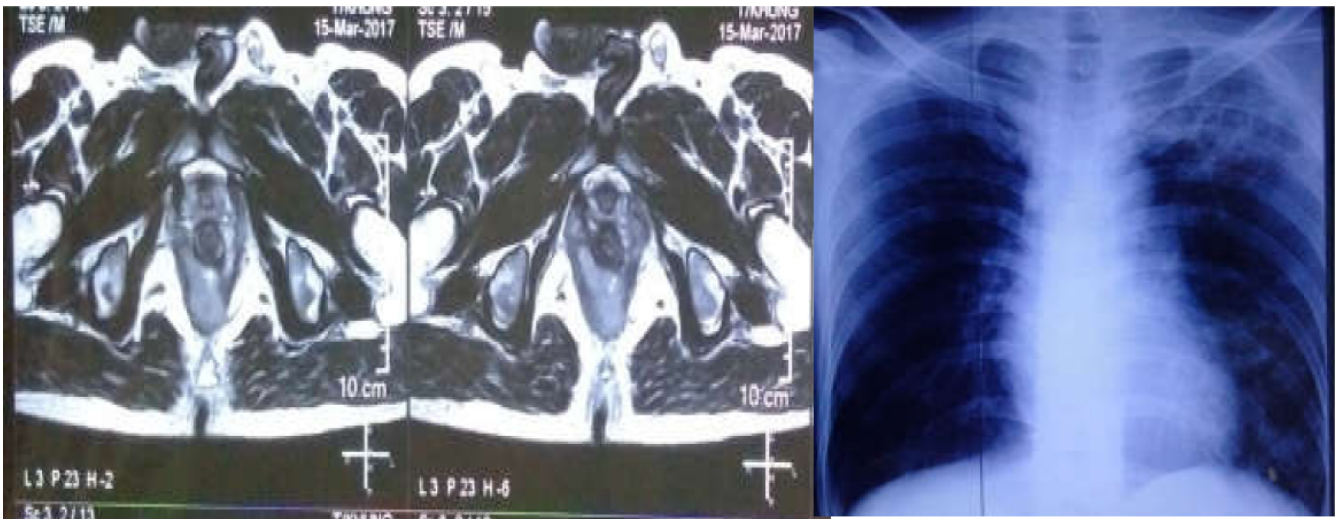


Figure 2 A complex anal abscess on MRI and a suspected TB lesion at the upper lobe of the left lung

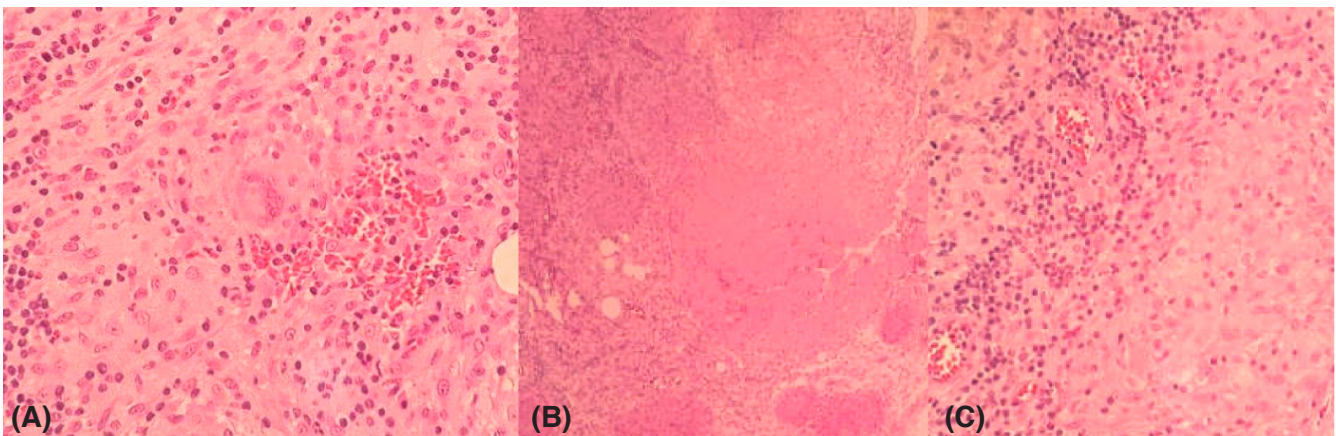


Figure 3 Histopathological features of tuberculosis on Haematoxylin & Eosin (H&E) stain: (A) a multinucleated giant cell; (B) caseation; (C) epithelioid cells and lymphocytes

These are combinations of Isoniazid, Ethambutol, Rifampicin, and Pyrazinamide given for 10 months. However, patients with kidney transplants are prescribed anti-TB drugs for 6 months, monitored by a pulmonologist and nephrologist.

Two patients who underwent operative treatment had postoperative fecal incontinence including one patient with hemiplegia after a stroke, and one 80-year-old patient who underwent fistulotomy twice. One patient died in on the 10th month of the postoperative follow-up time due to leukemia, and another died in 3 weeks after the operation due to multi-organ tuberculosis. Both patients did not complete the course of anti-TB treatment.

DISCUSSION

The postulated mechanisms by which tubercle bacilli reach the perianal region includes³⁻⁵: 1) hematogenous spread from the primary lung lesions; 2) ingestion of bacilli in sputum from active pulmonary focus; 3) ingestion of contaminated cow's milk; 4) a direct spread from the adjacent organs; 5) spread through lymph channels from infected nodes; and 6) sexual transmitted tuberculosis, which is an unproven hypothesis. Perianal tuberculosis seems to be more common in men, usually in patients over 40 years of age, which may occur secondary to or concurrent with pulmonary TB.⁵

There is a high rate (16% to 34%) of concomitant HIV in perianal TB, and is thought to be the result of the immunodeficiency condition, although the relationship between perianal TB and AIDS is still unclear.³ Though we excluded HIV patients in the present study, there were three patients with immunodeficiency conditions, including one on long-term corticosteroid usage, one with leukemia, and one on immunosuppression drugs after kidney transplantation. The report of Tai et al. mentioned that patients had underlying co-morbid illnesses implying poorer health status (such as diabetes, stroke, asthma, hepatitis, and cancer), which might increase the risk of TB.⁴

Most patients in present study (93% or 14 of 15) presented with the clinical features of anal fistula and abscess and there were no specific signs or symptoms to distinguish them from fistula or abscess of anal crypt origin. Seven patients had a past history of anal operations with a long duration of illness, one of whom had had the condition for 12 years. These findings are similar to those of Tai et al. from Chang Gung Memorial Hospital, where 16 of 17 perianal TB patients presented as

anal fistulae without differentiating between complex and simple types.⁴ It is important, therefore, to be aware of perianal TB in patients with recurrent anal fistula and non-healing lesions in the anal region.

Other chronic conditions and diseases may have to be distinguished from perianal TB. For example, surgeons have to consider hidradenitis suppurativa, Crohn's disease, submucosal tumors, anal fissure, pilonidal cyst, perianal ulcerations, and hemorrhoids.³⁻⁶ In terms of histological features, diagnosis can be difficult, especially when differentiating TB from Crohn's disease when the necrotizing granuloma sign is absent.⁷

There is a remarkable rate of perianal TB patients coexisting with TB in other organs in the present study (47% or 7 of 15 patients). Most of these were pulmonary TB (5 patients) although there was just one patient with a previous history of pulmonary TB. Tai et al. reported that among 17 perianal TB patients, 13 patients had coexisting pulmonary TB, 6 had evidence of previous pulmonary TB, but none had TB in the pleura or the knee joint as in the present study. Therefore, we recommend checking for a history of pulmonary TB and taking chest radiographs before performing an operation for perianal disease.

After the diagnosis of perianal TB is made, anti-tuberculosis drugs must be prescribed. Although perianal lesions can be healed by medication in some cases, surgical treatment for these lesions may be necessary in addition to anti-tuberculosis drugs.⁴ This is because most cases of perianal TB are post-operatively diagnosed by pathologic examination, and doctors are often not aware of this diagnosis before operation. In our study, there was only one patient with a perianal TB abscess accompanying by pulmonary TB who were diagnosed as such during clinical examination, which was confirmed on bacterial analysis. After six months of anti-TB drugs, the perianal lesion was completely healed.

Other patients in our series underwent abscess drainage and seton fistulotomy and all perianal lesions healed well after a full course of anti-TB drugs. Therefore, we recommend that all operative specimens undergo histopathologic examination. On the other hand, surgeons would carry out less invasive surgery with less chance of damage to the anal sphincter if a preoperative diagnosis of perianal TB could be made. A high degree of suspicion for perianal TB before operation with preoperative confirmation of the diagnosis would be ideal.

CONCLUSION

Perianal TB is rare, and may coexist with TB in other organs, and mostly presents as an anal fistula or abscess. Histopathology and microbiology are of great value in the diagnosis. We should be aware of this disease in patients with a history of persistent lesions in the perianal region or with perianal lesions associated with TB in other organs. Treatment includes anti-TB drugs and surgical intervention.

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