A case of ano-rectal tuberculoma simulating cancer in AIDS

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SUMMARY

We report a case of ano-rectal tumour clinically diagnosed as cancer in a 36 years old male AIDS patient. Pathology analysis of the biopsy specimen revealed tuberculosis. The tumour regressed enormously and the general condition of the patient improved during the follow up with anti-tuberculous and ARV therapy. Not all tumour-like lesions that occur in immune depressed patients are neoplasia. This is a case of a rare localization of a common disease and highlights the importance of pathology analysis of specimens in diagnosis and management of patients even when clinical presentation of the case appears so obvious.

Keywords: anus, rectum, tuberculosis, cancer, AIDS.

INTRODUCTION

AIDS is associated with many opportunistic infections and common amongst these is tuberculosis. The dual epidemic of tuberculosis and human immunodeficiency virus (TB/HIV) is a major global public health challenge.[1] The risk of developing tuberculosis is estimated to be between 20–37 times greater in people living with HIV than among those without HIV infection. In 2009, there were 9.4 million new cases of TB, of which 1.2 million (13%) were among people living with HIV. TB is a leading cause of morbidity and mortality among people living with HIV.[2] Common extra pulmonary sites of TB infection include lymph nodes, osteoarticular areas and pleura. Anal and/or rectal localization of tuberculosis, even in immune-compromised patients is rare.[3]

TB infection in most organs presents as soft, caseous, necrotic tissue debris. However, following an infection, a tumour-like mass may occur in the organ involved. This pseudo tumour known as a tuberculoma may simulate a neoplasm and could be clinically misdiagnosed as such. In such circumstances, ancillary investigations and pathology studies are of utmost importance in making the accurate diagnosis, as occurred in this case that we report.

CASE REPORT

KM is a 36 years old male teacher. He is a bachelor and admitted to habitual risky sexual exposure with multiple partners. The patient had never received any blood or blood product transfusion. He was found to be sero-positive to HIV I about two years earlier. He was not on ARV therapy before presentation. Physical examination revealed a patient with moderate weight loss and mild anaemia of 10 gm% of haemoglobin. Few non-tender, mobile lymph nodes were found in the cervical, axillary and inguinal regions. On examination under anaesthesia, we found perianal soiling with a firm, circumferential, multifocal, nodular tumour in the anal canal extending to the rectum. The internal anal sphincter was destroyed with a gaping ulceration that extended to the perineum and perianal skin (Figure I). There was no ascitis and the chest x-ray was normal. Colonoscopy revealed exophytic tumoural nodules in

the recto-anal mucosa. A clinical impression of carcinoma of the rectum with anal and perianal extension and a differential diagnosis of malignant lymphoma or Crohn’s disease was made. A biopsy of the tumor and microscopic examination of routine Haematoxyline and Eosin-stained slides showed granulomas centered by caseous anhistic necrosis with mature activated lymphocytes, epitheloid cells and Langhans giant cells with horse-shoe shaped multiple nuclei (Figure Ila and IIb). No signs of malignancy were seen. A Zhiel Nelson stain was negative for mycobacteria. An intradermal mantoux test was strongly reactive. The patient’s CD4 count was 250/mm$^3$. A diagnosis of ano-rectal tuberculosis in AIDS was made and the patient was referred for treatment. The patient is alive five months into ARV and anti TB treatments with significant regression of the tumour and improvement of his general condition.

**DISCUSSION**

AIDS is associated with many benign and malignant diseases. TB is a very common opportunistic infection in people living with HIV. Colonic tuberculosis is not uncommon in developing countries and the cecum and ascending colon are the commonest sites involved. Anal and rectal sites are rarely involved.[3] Amongst the malignant diseases, Kaposi sarcoma, non Hodgkin’s lymphoma, primary central nervous system lymphoma and invasive squamous cervical cancer are classified as AIDS-defining.[4] Various other malignant diseases have been recently found to be associated with AIDS. These diseases include cancers of the ano-rectum. Colorectal cancers in particular and GIT cancers in general are on the rise in our community.[5] Non-Hodgkin’s lymphomas and Kaposi sarcomas are frequent and commonest AIDS-associated malignancies in Cameroon.[5] Though some authors report no increased risks of colorectal cancers amongst AIDS patients.[5]

Diagnosis of extrapulmonary TB can be difficult and a high index of suspicion is necessary.[6] In a series of 50 patients with colonic tuberculosis that was collected over a 10-year period, specific diagnostic features such as the presence of caseation on histological study, positive staining for acid-fast bacilli, or a positive culture for *Mycobacterium tuberculosis* were seen in only 18% of patients.[1] Tuberculous enteritis can result from swallowing of infected sputum, ingestion of contaminated food, hematogenous spread and direct extension from adjacent organs. The bacilli penetrate the mucosa and infect the submucosal lymphoid tissue, resulting in the epitheloid tubercle. Mucosal sloughing and ulceration occur 2–4 weeks later. The colonoscopic features of colonic tuberculosis include erythema, mucosal nodules, ulcers, strictures, and a deformed ileocecal valve.[1,7,8] These features are non-specific, however, and can also occur in Crohn’s disease.[8] The intestinal lesions can be ulcerative, hypertrophic or ulcero-hypertrophic. Ulcers are small and multiple with irregular margins. The surrounding mucosa shows considerable thickening. With progression there is granuloma formation, caseous necrosis and cicatrisation.

![Figure I. Ulcerating ano-rectal tuberculoma simulating cancer.](image1)

![Figure IIa. Caseation necrosis in biopsy specimen.](image2)

![Figure IIb. Granulomas with Langhans giant cells in biopsy specimen.](image3)
The less common hypertrophic form is characterized by abundant inflammatory response and reactive tissue producing a multi nodular mucosal pattern or neoplasm-like mass. The ileo-cecal area and jejun ileum are the most common sites of involvement. A negative smear for acid-fast bacillus, as was found in this case, a lack of granulomas on histopathology, and failure to culture Mycobacterium tuberculosis do not exclude the diagnosis. Definitive diagnosis is based on histopathology and culture of biopsy specimens obtained by colonoscopy or laparotomy. This patient’s chest X-ray showed no evidence of pulmonary tuberculosis. This is not surprising, since less than half of patients with abdominal tuberculosis have associated pulmonary disease; and in one study, the proportion was 19%. In one study, the proportion was 19%.

Tuberculosis may affect any part of the gastrointestinal tract, but it most commonly involves the terminal ileum and ileocaecal region. In an analysis of six series of patients with abdominal tuberculosis, colonic tuberculosis accounted for 12.1% of all cases of gastrointestinal tuberculosis, and 6% of all cases of abdominal tuberculosis.

The introduction of highly active antiretroviral therapy in the mid-1990s greatly reduced the incidence of AIDS-associated cancers and lowers the amount of HIV circulating in the blood, thereby allowing partial restoration of immune system function. Anti TB treatment should be given even if the bacterial culture from an endoscopic biopsy turns out to be negative for M.tuberculosis, since only a minority of patients with intestinal tuberculosis shows the presence of this bacterium on culture. Both therapies were administered in our case and the general condition of the patient improved. This case highlights the significance of pathology examination of specimens especially in resource-stressed communities like ours where most surgical specimens are not analyzed.

**CONCLUSION**

The dual epidemic of tuberculosis and human immunodeficiency virus (TB/HIV) is a major global public health challenge. Effective therapeutic interventions to reduce morbidity and mortality for both diseases require specific diagnostic approach amongst which is pathology analysis of specimens. This has the effect of not only saving time and financial burden, but also to orient management and avoid unnecessary mutilating procedures.

**REFERENCES**