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Case Report

Ileocaecal ménage a trois: A rare case presentation

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1. Case report

We report a case of a 32-year-old Black African male, newly diagnosed with Human Immunodeficiency Virus (HIV) infection, who presented with symptoms and signs of an acute abdomen.

The patient presented with a three-week history of diarrhoea and a five-day history of severe generalised abdominal pain with fever. The patient took alcohol and was a smoker (15 pack years). The past medical was non-contributory. On physical examination the patient was ill-looking and in severe pain. The core body temperature was 37.5 °C. Abdominal examination revealed generalised tenderness and right iliac fossa guarding and tenderness associated with a palpable mass. The Complete Blood count (CBC) and serum Urea and Electrolyte levels were within normal limits. The CD4 count was 563 cells/μl.

An ileocaecal mass was identified on exploratory laparotomy and histopathological examination of the right hemicolectomy resection specimen showed extensive involvement of the terminal ileum and caecum by caseating epithelioid granulomata accompanied by Langhans-type multinucleated giant cells typical of Tuberculosis. The Ziehl-Neelsen stain was positive for alcohol and acid fast bacilli (AAFBs). An additional lesion represented by nodules of a synaptophysin-positive carcinoid tumour (Neuroendocrine tumour grade 1, NET G1) was identified in the distal appendix and caecal submucosa, with each nodule measuring less than 1 cm across. The incidental presence of innumerable calcified and non-calcified (viable) Schistosoma ova completed the rather unusual constellation of pathological findings in this patient (Figs. 1 and 2).

2. Discussion

Tuberculosis (TB) and schistosomiasis are endemic conditions in Sub-Saharan Africa whereas carcinoid tumours are not as frequently reported. Our patient had no evidence of pulmonary TB and we concluded he had primary gastrointestinal tuberculosis.

A meta-analysis on the prevalence of extra-pulmonary TB in HIV positive patients in Sub Saharan Africa showed a high but diverse prevalence ranging from 6.5% to 36.8% [1]. The gastrointestinal tract is the 6th most common extra-pulmonary site for TB where it typically has a predilection for the ileocecal region possibly due to stasis, abundant lymphoid tissue and increased absorption [2].

Schistosomiasis on the other hand is the second most prevalent parasitic disease worldwide after malaria [3]. Schistosomiasis as an aetiology of appendicitis ranges between 0.02 and 6.96% while representing 28.6% of chronic appendicitis in areas where it is endemic schistosomiasis has been noted commonly in the urinary bladder [3,4].

Carcinoid tumours are neuroendocrine tumours arising from the enterochromaffin cells disseminated throughout the gastrointestinal and respiratory systems. Carcinoids of the appendix are not uncommon and are usually incidentally discovered with a reported incidence of 0.27% to 1.6% and they usually have an indolent course, with rare metastasis to regional lymph nodes, liver, bones, or brain related to an appendiceal carcinoid size of greater than 2 cm [5]. We are unaware of an increased incidence of carcinoid in association with the immunocompromised individuals.

Tuberculosis and schistosomiasis in isolation have both been reported frequently in association with malignancies in various organs of the body where in addition to being incidental at times, it is also postulated that the chronic inflammation they elicit is a predisposing factor to malignant transformation [4,6,7]. Tuberculosis was largely the major component of the ileocecal mass in our case.

There are papers documenting the coexistence of either both of TB and carcinoid or of schistosomiasis and carcinoid [6,7], however, the coexistence of carcinoid, schistosomiasis and TB in the same patient is extremely rare. Whether this represents the development of cancer on a background of a previous tuberculous/Schistosoma infection or the concurrent existence of TB and malignancy in the same patient is not clear and the presence of HIV coinfection adds further to this enigma.

When considering the management of co-existence of tuberculous

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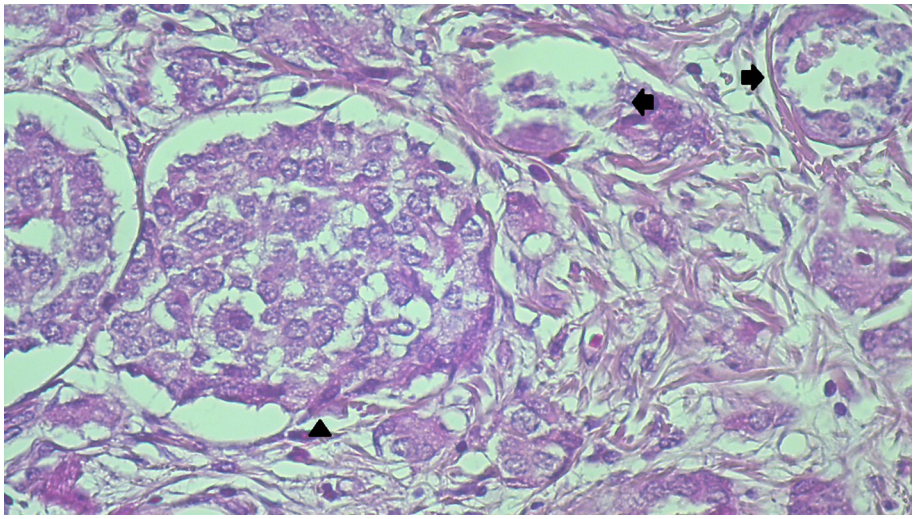

Fig. 1. Insular nests of NET G1 (arrowhead) intimately associated with Schistosoma ova (arrows).

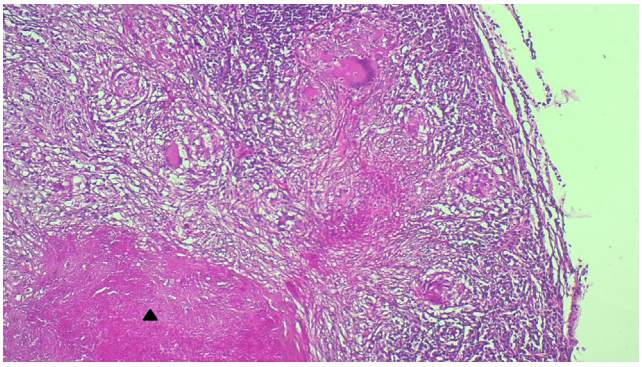

Fig. 2. Mesenteric lymph node with effacement of architecture by caseating epithelioid granulomata (arrowhead) of Tuberculosis.

infection and malignant lesions, the question ceases to be just of academic interest. The commencement of immunosuppressive therapy in a patient with undiagnosed TB could cause dissemination of TB and at the same time the presence of lymphadenopathy due to tuberculous lymphadenitis may lead to over-staging of malignancy.

To our knowledge, this is the first published case demonstrating all three pathologies within the ileocecal region of the same patient and highlights the need to practice extreme vigilance especially in the immunocompromised.

3. Conclusion

The possibility of coexistent pathology, particularly in regions endemic for TB, mandate a detailed histopathological examination to prevent the chances of diagnostic failure and consequent therapeutic error.

Patient consent statement

Consent to publish the case and images was obtained in writing from the patient.

CRediT authorship contribution statement

Simbarashe Gift Mungazi: Conceptualization, Investigation, Writing - original draft, Writing - review & editing. **Blessing Zambuko:** Conceptualization, Investigation, Writing - original draft, Writing - review & editing. **Allan Ngulube:** Writing - original draft, Writing - review & editing. **Rudo Gwini:** Investigation, Writing - original draft, Writing - review & editing. **David Muchuweti:** Writing - original draft, Writing - review & editing.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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This is to certify that this publication is not submitted to any other journal and there are no conflicts of interests. As the corresponding author, I submit this case report for peer review and positive criticism, and for possible acceptance for publication. There were no financial requirements for writing this case study.

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