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Unveiling the Unexpected: Co-Infection in a Yemeni Male with Chronic Abdominal Pain and Fever

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ABSTRACT

A 33-year-old Yemeni male, who had moved to Saudi Arabia recently and was imprisoned in Aseer region. He exhibited a 6-week history of fever, nocturnal hyperhidrosis, weight loss, and nonspecific abdominal pain. Radiological assessment indicated hepatosplenomegaly, portal vein thrombosis (PVT), and extensive lymphadenopathy. Histopathology revealed chronic granulomatous encasement of Schistosoma eggs, indicative of schistosomiasis, whereas a peripheral blood smear validated Plasmodium falciparum parasitemia. This case underscores the significance of evaluating co-infections in patients from endemic regions and underlines the diagnostic efficacy of imaging and histopathology in identifying chronic parasitic illnesses, notably schistosomiasis.

Keywords: *Co-Infection ; Plasmodium falciparum; schistosomiasis; Chronic Abdominal Pain ; Fever; Aseer*

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1. INTRODUCTION

Parasitic illnesses remain a considerable worldwide health challenge, especially in sub-Saharan Africa and the Middle East. Most malaria deaths around the world are caused by Plasmodium falciparum, the deadliest type of malaria. In Saudi Arabia, 6,460 cases of malaria were reported in 2023, with 95% being imported. This shows that border areas like Aseer are still at risk [1].Schistosomiasis, induced by Schistosoma species, is a persistent helminthic infection linked to hepatosplenic illness, periportal fibrosis, and portal hypertension. In 2023, there were only 25 confirmed cases of schistosomiasis in the whole country, and none were reported in the Aseer region. However, 60% of the cases were in people who were not Saudi, which shows that immigrant communities bear a disproportionate burden [1].Co-infections with malaria and schistosomiasis, while infrequent, occur in persons from endemic areas and may complicate both diagnosis and treatment. We present an uncommon case of simultaneous P. falciparum malaria and hepatosplenic schistosomiasis accompanied by.

portal vein thrombosis in a Yemeni male who arrived recently

2. CASE PRESENTATION

A 33-year-old Yemeni male arrived at the emergency room of Aseer Central Hospital with a 6-week history of intermittent high-grade fever (up to 39.5 °C), accompanied by severe night sweats, gradual weight loss (~7 kg), and nonspecific abdominal pain localized to the left upper quadrant. He had watery diarrhea for four days before being admitted. He had 4–5 episodes a day that were neither bloody or mucoid, and two episode of vomiting. There were no concerning symptoms of cough, hemoptysis, dysuria, or skin rash, and he had reduced appetite. He had come to Saudi Arabia from rural Yemen two months earlier and had been incarcerated. There was no prior medical history, no known exposure to tuberculosis (TB), and no history of blood transfusions or substance abuse.

On Examination, the patient appeared sick, pale, and cachectic. The vital signs were: temperature 38.7 °C, pulse 110/min, blood pressure 100/65 mmHg, respiratory rate 20/min, and oxygen saturation 97% on room air. There were right epitrochlear lymphadenopathy and several tiny cervical nodes. The abdominal exam showed mild hepatomegaly (liver spread 14 cm, firm, non-tender) and splenomegaly 5 cm below the costal edge. No ascites or signs of chronic liver disease were found. The cardiopulmonary and neurological exams were normal.

The lab tests showed that the hemoglobin level was 10.8 g/dL (14 to 18 g/dL), the white blood cell count was 4.2 × 10^9/L (4.5 to 11 × 10^9/L), the platelet count was 112 × 10^9/L (150 × 10^9/L to 400× 10^9/L), the ESR was 71 mm/hr (< 15 mm/hr), and the CRP was 2.5 mg/L (< 3 mg/L). Liver function tests showed mild transaminitis, with ALT at 78 U/L (4 to 36 U/L) and AST at 95 U/L (5 to 30 U/L). Bilirubin and albumin levels were normal. The renal profile was normal. The rapid diagnostic test for malaria was positive for both pan-LDH and P. falciparum, and the thin smear showed that P. falciparum was present at 2%. Tests for HIV, hepatitis A/B/C, brucellosis, and syphilis came back negative. There were no positive blood cultures.

A contrast-enhanced CT scan of the abdomen showed hepatosplenomegaly, periportal fibrosis, several hypodense hepatic lesions, and multiple of retroperitoneal lymphadenopathy. An MRI of the abdomen showed several cystic hepatic lesions with fibrosis around them and signs of portal vein thrombosis. There was suspicions of cancer, and an ultrasound-guided laparoscopy showed that there were whitish deposits all over the liver surface, splenomegaly, many small whitish nodules all over the peritoneum, and many enlarged intra-abdominal lymph nodes (Figure 1). The liver biopsy revealed numerous granulomas surrounding Schistosoma eggs, accompanied by concentric periportal fibrosis, indicative of persistent schistosomiasis (figure 2). A lymph node biopsy revealed reactive follicular hyperplasia. not including lymphoma or TB. Anti-Schistosoma Antibody IgG was 1.51 (>1 positive).

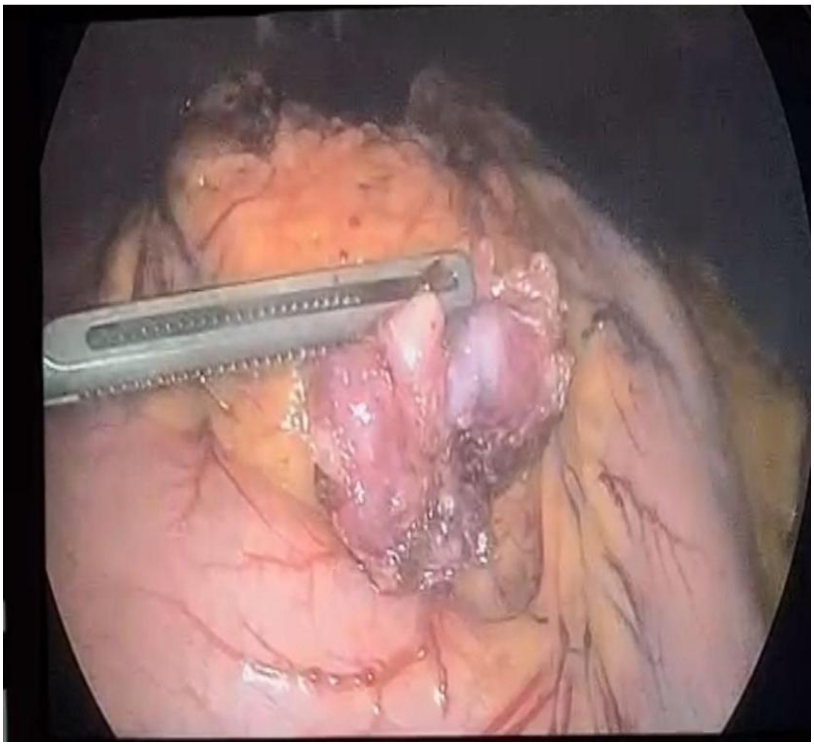

Figure 1: A tiny nodule was cut out for a biopsy.

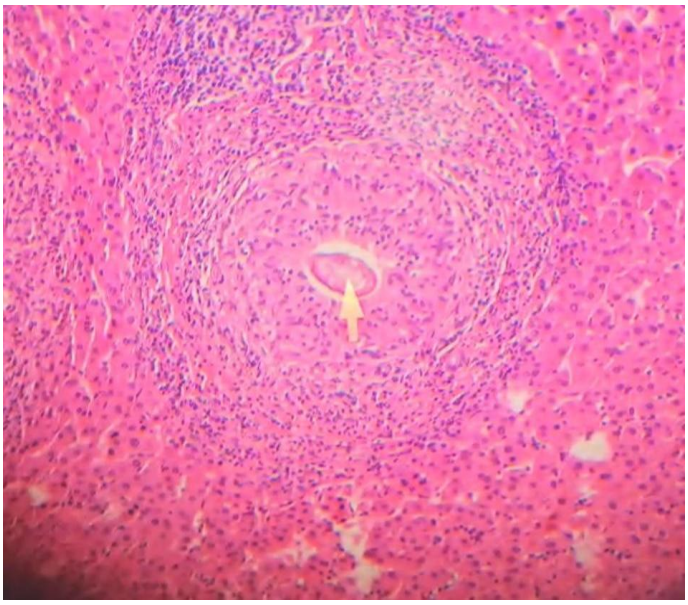

Figure 2: Histopathology of the removed nodule displaying a Schistosoma egg encircled by granuloma.

The patient received artesunate and doxycycline for malaria, praziquantel (40 mg/kg in two divided doses) for schistosomiasis, and apixaban for PVT. His fever was resolved within 48 hours, his diarrhea and appetite improved after 4 days. He was discharged on the twelfth day of his stay in stable condition, with follow-up appointments in infectious diseases and hepatology clinics.

3. DISCUSSION

This case illustrates the diagnostic complexity of concurrent parasite illnesses in persons from endemic areas. The patient initially exhibited acute P. falciparum malaria but was later diagnosed with chronic hepatosplenic schistosomiasis exacerbated by portal vein thrombosis (PVT). Portal vein thrombosis is an unusual but known consequence of hepatosplenic schistosomiasis, resulting from periportal fibrosis and vascular remodeling [2]. Schistosomiasis is recognized as a risk factor for bladder cancer [2].

Eosinophilia is commonly regarded as a characteristic of parasite infection; nevertheless, its absence in this instance aligns with the chronic phase of schistosomiasis, characterized by diminished immune activity [2]. Lymph node pathology ruled out cancer and TB, aiding in the refinement of the diagnosis.

There is a lot of evidence of people getting both malaria and helminths, including schistosomiasis, especially among refugees and immigrants from locations where both diseases are common [3,4]. In this patient, malaria was probably contracted just before the presentation, while schistosomiasis was an ongoing illness that had been there for a long time. This disparity was clinically significant, necessitating both antimalarial and antischistosomal treatment, in addition to anticoagulation for PVT.

Recent Saudi surveillance data underscore the importance of this case: malaria in Aseer region is primarily imported, with P. falciparum as the major species, but schistosomiasis, though infrequent, disproportionately impacts non-Saudi citizens [1]. This emphasizes the necessity of early screening and sustaining a heightened level of suspicion for parasite co-infections in immigrants exhibiting systemic sickness and organomegaly.

4. CONCLUSION

This case highlights the necessity of evaluating several concurrent infections in patients from endemic regions exhibiting protracted constitutional symptoms. Falciparum malaria elucidated the acute febrile sickness, whereas enduring systemic manifestations indicated chronic hepatosplenic schistosomiasis accompanied by portal vein thrombosis. A layered diagnostic approach that includes imaging, histology, and epidemiological background is very important for finding the right treatment and getting better results.

REFERENCES

[1] Saudi Ministry of Health. 2023 Statistical Yearbook [Internet]. Riyadh: Ministry of Health, Kingdom of Saudi Arabia; 2023 [cited 2025 May 25]. You can find it at

https://www.moh.gov.sa/Ministry/Statistics/book/Documents/Statistical-Yearbook-2023.pdf

[2] Gryseels B, Polman K, Clerinx J, Kestens L. Human schistosomiasis. Lancet. 2006;368(9541):1106–1118. https://pubmed.ncbi.nlm.nih.gov/16997665/

[3] Naing C, Whittaker MA, Nyunt-Wai V, Reid SA, Wong SF, Mak JW. A systematic review of malaria and helminth co-infection in humans. Trop Biomed. 2013;30(4):604–614. https://pmc.ncbi.nlm.nih.gov/articles/PMC3919243/

[4] Deribew A, Dejene T, Kebede B, et al. conducted a community-based study on malaria and low-nutrition among children under five years old at risk of malaria in South-West Ethiopia. PLoS One. 2010;5(5):e10775. https://pubmed.ncbi.nlm.nih.gov/20505829/.