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Incidental Finding of Liver Malarial Pigment with Schistosomiasis in a Donor Liver Biopsy

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A 32-year-old male resident of Cambodia was being evaluated for prospective liver donor. His liver function test revealed bilirubin-0.49 (upto 1g/dl), SGOT 35 (15-37 U/L), SGPT 26 (30-65 U/L) SAP 98 (50-136 U/L), GGT 70 (5-85 U/L), BUN- Blood Urea Nitrogen 11 (6-20 mg/dl), creatinine 1.1 (0.9-1.3 mg/dl). His haematological parameters were within normal limits with no eosinophilia. CT liver showed atrophy hypertrophy complex with atrophy of right lobe and relative hypertrophy of left lobe. He underwent liver biopsy for same. Liver biopsy showed presence of malarial haemozoin (Hz) pigments with eggs of schistosomia within the portal tracts. (Figure 1) The haemozoin pigments were noted within the portal macrophages and kupffer cells. The pigment was negative with Prussian blue stain. The patient subsequently gave history of frequent swimming and his two brothers had recent history of malarial fever. He was subsequently tested by rapid malarial test and found to be positive for same. The Schistosomiasis is a chronic parasitic disease caused by a trematode blood fluke of the genus Schistosoma [1]. The pathogenesis of schistosomiasis is related to the host cellular immune response. The parasite resides in portal vein and elicit an inflammatory response that leads to granuloma formation with subsequent periportal fibrosis. Because of portal fibrosis most cases present with portal hypertension, splenomegaly and esophageal varices thus mimicking chronic liver disease. Histology shows eggs of schistosomiasis with adjacent inflammatory response as was also seen in index case [2]. Schistosomiasis and malariasis are both a major health concern in Cambodia. In addition to eggs of schistosomia the biopsy tissue also showed presence of hyperplastic portal macrophages and kupffer cells laden with Hz pigment. Hz pigment is considered as an important biomarker of malarial infections [3]. These pigments are released during rupture of infected erythrocytes and malaria parasites and phagocytized by the leukocytes during their life cycle [4]. Though the pigments have also been described in cases of schistosomiasis the family history of the patient and positivity for rapid malarial test confirmed the findings. We report this unusual case of incidental finding of malarial haemozoin pigment with schistosomiasis egg in a prospective liver donor patient.

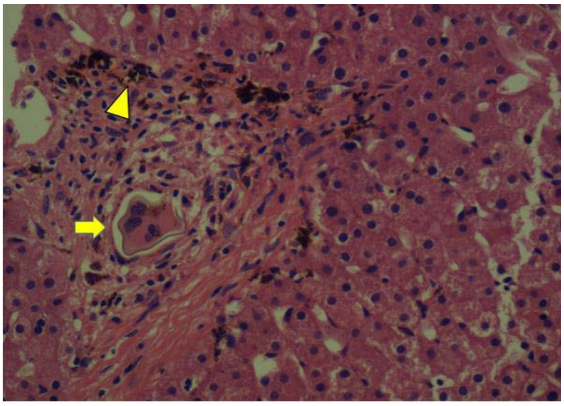

Figure 1: Microscopy showing schistosomial eggs (arrow) with hemozoin pigment (arrowhead) on a liver biopsy core. (H&E X 20).

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