

Case Report

**ACUTE PANCREATITIS- AN UNUSUAL COMPLICATION OF
FALCIPARUM MALARIA**

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ABSTRACT

Malaria is among the commonest causes of pyrexia in Indian subcontinent. It carries a significant morbidity and mortality especially with plasmodium falciparum variety. Acute pancreatitis complicating falciparum malaria is a very rare occurrence. Although management of pancreatitis is mainly supportive, specific therapy is available for this entity if form of antimalarial therapy. If not correctly diagnosed, pancreatitis can have a relentless course until specific antimalarial therapy is administered. We report two patients with malarial pancreatitis. Both patients improved with supportive care for pancreatitis and specific antimalarial treatment. A review of literature revealed that falciparum malaria is a very rare cause of pancreatitis.

Key Words: *Malaria, Falciparum, Pancreatitis, Acute Abdomen*

INTRODUCTION

Clinical course of malaria can be complicated by a myriad of complications which can be self limiting to potentially lethal ones. Most of the complications arise as a result of severe hemolysis or because of plugging of microcapillaries with parasite infested red blood cells (RBC). We encountered 2 cases of proven acute pancreatitis with falciparum malaria. Both patients did not have any other reason that could have lead to acute pancreatitis. A review of literature revealed that falciparum malaria is a very rare cause of pancreatitis.

CASES

Case 1: A 62 years old female was admitted with high grade fever and vomiting of three days duration. After admission she developed acute upper abdominal pain mainly localized in epigastrium and radiating to back. Patient denied any history of jaundice, urinary symptoms or bowel disturbance. Physical examination revealed distended upper abdomen and guarding in epigastrium. Bowel sounds were absent. Laboratory test values were: hemoglobin- 11.4 gm%, total leucocyte count (TLC)-11, 000/ mm³, with 85% neutrophils. Liver function tests were within normal limits. Serum amylase was 11,000 U/L. Serum calcium level was normal. Abdominal X ray revealed distended bowel loops with air fluid levels. Ultrasound of the abdomen showed a swollen head and body of pancreas with mild peripancreatic fluid collection. No Gallstones were seen. Patient was diagnosed as a case of idiopathic pancreatitis and was put on conservative treatment. But patient general condition didn't improve. Subsequently, patient's peripheral blood film examination showed ring form of plasmodium falciparum. Anti-malarial drug Quinine was given initially intravenously for 4 days and then orally for 3 days. Her fever, abdomen pain and distention improved subsequently. Pancreatitis resolved and patient was discharged. Patient is on regular follow up with no recurrence of symptoms.

Case 2: A 17 years old male was admitted with acute abdomen and fever of 3 days duration. There was no history of jaundice, vomiting or urinary problems. Patient denied history of alcohol intake. On examination patient had temperature of 39⁰ C. There was no icterus. Abdominal examination revealed tenderness and guarding of epigastrium and both hypochondrium. Rest of the abdomen was mildly distended. Laboratory test values were: Hemoglobin-11.6 gm %, hematocrit- 33%, TLC-15000/mm³ with 85% neutrophils. Peripheral blood film examination was positive for falciparum parasitemia. Liver and

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renal function tests were within normal limits. Serum amylase and lipase were 9000U/L and 400U/L respectively. Serum calcium level was normal. Ultrasound of the abdomen showed focal pancreatitis in region of body only. No gallstones were seen. Patient was given antimalarial treatment and pancreatitis was managed conservatively. On the 5th day of admission contrast enhanced computed tomography (CECT) of abdomen was done which revealed diffusely enlarged head, body and tail of pancreas with minimum peripancreatic fluid collection with thickening of gerota's fascia. (Figure1) Patient made complete recovery and was discharged in a good condition. Patient is in regular follow up (18 months) and is asymptomatic.

DISCUSSION

Pancreatitis is a dreadful disease with considerable morbidity and mortality. From mild disease to multi organ dysfunction syndrome, acute pancreatitis is a disorder with numerous causes, an obscure pathogenesis, few effective remedies and often-unpredictable outcome. Biliary disease and alcohol abuse together contribute more than 80% of cases. Fifteen to 20% cases are idiopathic. Falciparum malaria can cause one or multiple organ complications (Sonnenberg *et al.*, 1986; Johnson *et al.*, 1977). Plasmodium falciparum causes accumulation of parasitized erythrocytes causing thrombosis and infarcts commonly in the small vessels of spleen, liver, bone marrow & brain. Less commonly affected organs include small intestine, pancreas, heart & lungs. Parasitized erythrocytes bind to receptors on the surface of endothelial cells by the formation of knobs and cause obstruction of capillary blood flow (Desai *et al.*, 2001). In fatal plasmodium falciparum infection, autopsy studies demonstrated that the small blood vessels of the pancreas were packed with parasitized RBC and rosettes (White and Ho 1992). Hence, blocking of microcirculation within the substance of pancreas is a possible explanation. Heavy parasitemia following falciparum infestation may plug the capillaries, thus producing ischemia and pancreatitis. Similar views have been expressed recently by Desai *et al.*, 2001. Acute pancreatitis as a complication of falciparum malaria has been infrequently reported. First case of malarial pancreatitis was reported by Egdhal *et al.*, 1907. Since then very few cases of malarial pancreatitis have been reported worldwide.



Figure 1: CECT abdomen showing diffusely enlarged head, body and tail of pancreas with peripancreatic fluid collection. There is no evidence of gallstones.

CONCLUSION

Pancreatitis can complicate falciparum malaria although it is rare. Therefore if a patient develops severe epigastric pain in the setting of falciparum malaria, malarial pancreatitis should be suspected. Prognosis is

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good if specific and supported treatment is started early. Unlike most of the other causes of pancreatitis wherein treatment is mainly supportive, specific treatment in form of antimalarial therapy is available for malarial pancreatitis. A patient of malarial pancreatitis, if erroneously placed in idiopathic group, will have continuous downhill course until specific antimalarial therapy against plasmodium falciparum is instituted.

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