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Human Intestinal Capillariasis: A Case Report

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Abstract: ***Human intestinalcapillariasis is a rare zoonotic parasitosis.Capillariasis can be life threatening if unrecognized and left untreated. The parasitosis is clinically characterized by chronic gastroenteritis, abdominal pain, borborygmus, weight loss, protein loss and dyselectrolytemia. We report one such case of a 40 year old female who presented with chronic diarrhea, vomiting, generalized anasarca. Patient's stool examination was positive forCapillaria eggs and she responded to treatment with albendazole.***

Keywords: Capillariasis, zoonotic parasitosis, Trichinelloidea, whip worm, gastroenteritis

1. Introduction

Capillariaphilippinensis is one of the only four species of the capillarids found in humans (of the >250 species of capillaria) namely c.philippinensis, c.hepatica, c.aerophila, c.plica. The human intestinal -capillariasis in endemic in Philippines and Thailand. It has spread geographically since then and sporadic cases have been reported from Egypt, Korea, Taiwan, Iran, Spainetc(1). In India, after the first case report by kang et al in 1994, there have been very few cases reported so far.Human intestinal capillariasis is a zoonotic disease that occurs in most reported cases in individuals who eat raw or undercooked fish. But, cases have been reported especially from non-endemic areas in individuals who denied ever eating raw or under cooked fish. (These cases are thought to be secondary to eating food contaminated with uncooked visceral contents of fish). Intestinal capillariasis can cause serious disease and be fatal if not diagnosed and treated in time. Hence, a degree of suspicion is required, especially in cases of chronic diarrhea.

2. Case Report

A forty year old female patient who is an agricultural laborer by occupation and resident of Nalagonda district of Andhra Pradesh presented to us with complaints of diarrhea, 10-15 episodes of loose watery yellowish non foul smellingstools per day since two months, colicky abdominal pain since two months, vomiting non-bilious, non-projectile since one month, swelling of feet which gradually progressedto generalized body swelling with distension of abdomen over a period of a month On examination patient had anasarca. She was moderately dehydrated. Her pulse 90/min, BP 90/60 mmHg, temperature a febrile. Her cardiovascular, respiratory and central -nervous system examination was within normal limits, abdomen was distended with ascites showing shifting dullness, and there was no apparentorganomegaly. Investigations: CBP and CUE were normal, ESR-10mm/hr, RBS-91 mg/dl, urea-25 mg/dl, creatine-0.6 mg/dl, serum sodium-121 mmol/l, potassium-2.4 mmol/l, chloride-79 mmol/l. Her serum total proteins-3.7 g/dl and serum albumin-0.7 g/dl were low, 24 hour urinary protein was within normal limits (43 mg).LFT-normal. Ascitic fluid was transudate with protein of 0.2 g/l.Ascitic fluid ADA-8.44 IU/l was within normal limits. Her stool examination showed numerous peanut shaped eggs with flattened bipolar plugs measuring about 36-45 x20 micro meters suggestive of capillariaphilippinensis(fig1), subsequent stool examination showed few dead adult worms. Upper G.I endoscopy revealed erosive antral gastritis, colonoscopy revealed sub epithelial hemorrhages in ascending and transverse colon.Scattered erosive mucosal lesions with loss of villi and whitish exudates are observed in distal ileum(Fig2). Biopsy specimen of jejunum was normal.

3. Discussion

In 2009, Rana SS et al [2] described how jejunal fluid analysis could be used to diagnose intestinal capillariasis. To the best of our knowledge, our case is the third attempt to describe about capillariasis in our country.

The genus Capillaria is a nematode member of the super familyTrichinelloidea, which includes Trichuri and Trichinella spp. Although more than 250 Capillaria species have beenfound in fish, amphibians, reptiles, birds, and mammals,only 4 species have been found in humans: Capillariahepatica, C. aerophila (Eucoleusaerophilus), C. plica, andC. philippinensis.[3] Capillariaphilippinensis is the only species that causes severedisease. It may be endemic but also can cause epidemics.

The life cycle of C. philippinensis(fig3)involves a small freshwater or brackish water fish harboring the infectious stages intheir viscera. Natural definitive hosts are fish-eating birds. Human become infected when they consume raw or insufficientlycooked fish or, less often, ichtyophagic birds. Handlingfish under poor sanitary conditions may contaminate otherfoods and favor indirect transmission. In humans, the parasite is not opportunistic (disseminated) but is usually restrictedto the small intestine where it develops, reproduces,and where the female lays eggs that mature into larvae. Anotable feature is that these larvae may engage in anauto-infection circle, which may produce high parasitic

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load. Parasitic products may interfere with ionic exchanges and carbohydrateand protein absorption of the intestinal epithelium,which produces a protein-losing enteropathy that is an outstandingfeature of capillariasis.

The clinical features in our case were consistent with other case reports from Philippines and Thailand. The diagnosis in our case was based on the identification of organism's ova in the stool. However there were no adult worms on endoscopy and only a few dead in stool examination. Jejunalbiopsy was normal in our case. There was a report of intestinal capillariasis diagnosed by endoscopy ina child. The gastroduodenoscopy showed normal jejunal mucosa although histological sections revealed flattened villi, crypt proliferation, acute inflammation, and eosinophilic granulomata.In another case report, histological study of jejunal mucosa demonstrated smallnematodes lying in a mucosal crypt.

In our case the patient responded clinically to albendazole 200mg twice daily given for 1 month. Also there was a clearance of the ova on stool examination and patient's serum albumin gradually improved. Albendazole is presently considered the drug of choicefor the treatment of human intestinal capilliariasis because itis effective against eggs, larvae, and adult worms . To avoid frequent relapses, high dosages and prolonged (3–4 weeks) or sequential treatments have been advocated. All compounds of the azole family of drugs are effective.

4. Management and Outcome

Patient was treated with Tablet Albendazole 200 mg twice daily for one month. She also received supportive therapy in the form of I.V fluids to correct dehydration and dyselectronemia. Salt free albumin infusion was given to correct hypoalbuminemia. Patient recovered well with gradual improvement in symptoms and her stools are free of organisms.

5. Conclusion

Early diagnosis is very important, considering the fact that infection results in a severe disease with a high mortality rate. A meticulous examination of the stool sample by an experienced microbiologist is the easiest way to diagnose the disease. Endoscopic- pathologic examination of the jejunum can be useful in stool negative cases. To conclude, Intestinal capillarisis needs to be considered in the differential diagnosis of patients with chronic diarrhea, abdominal pain and marked weight loss and is treated with Albendazole ,the drug of choice .

6. Figures

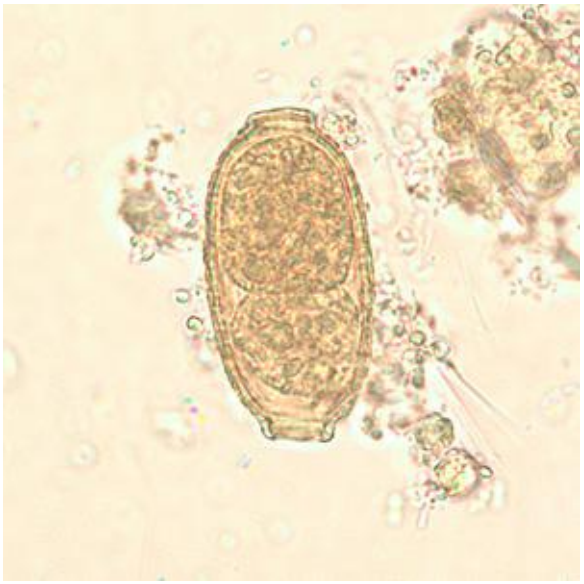


Figure 1: Stool sample showing eggs of C .Philippinensis

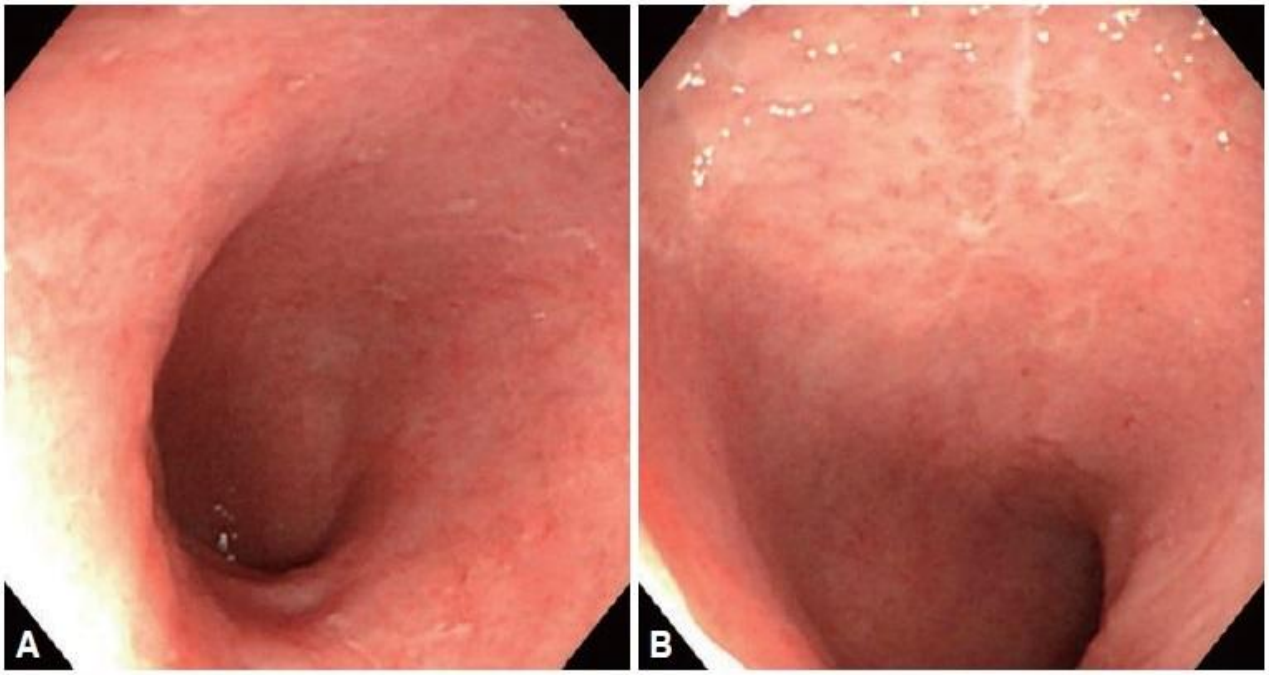


Figure 2: Endoscopy showing erosive mucosal lesions in distal ileum

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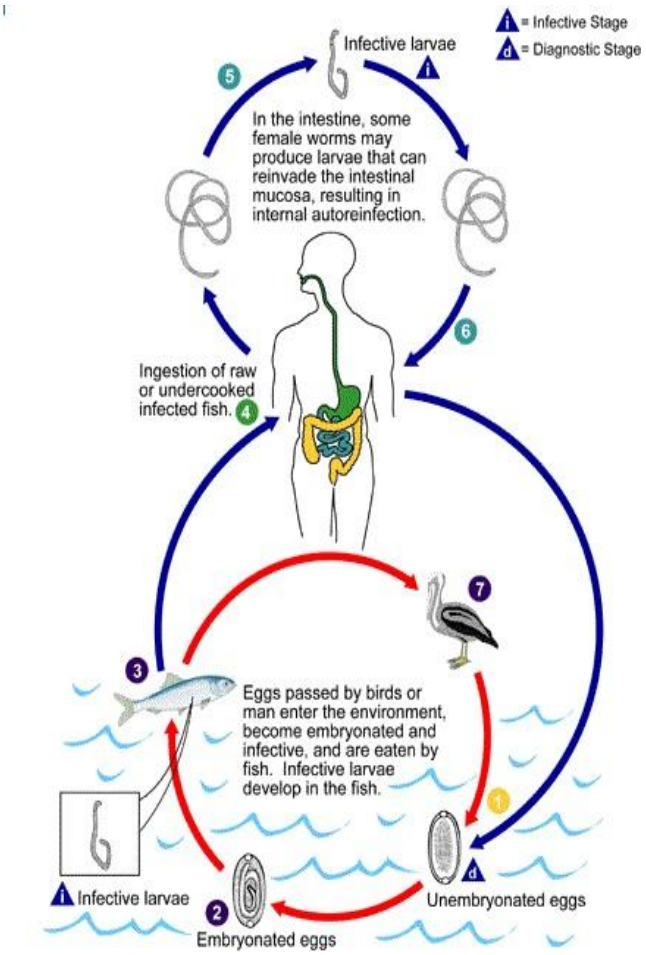


Figure 3: Outline of life cycle of C.philippinensis

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