Case Report

The Endoscopic-Pathologic Findings in Intestinal Capillariais: A Case Report

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A 27-year-old Thai man presented with chronic watery diarrhea for 2 years. The diagnosis of capillariasis was made by enteroscopy after negative repeated stool tests. Here, the authors reported the first case of abnormal endoscopic finding of intestinal capillariasis. It showed segmental erythematous and swelling of proximal jejunal mucosa with an area of superficial erosion covered by exudates. The parasitic eggs were identified in jejunal content and worms were identified in jejunal mucosa. He was successfully treated with albendazole.

Keywords: *Capillariasis, Endoscopy, Pathology*

J Med Assoc Thai 2007; 90 (1): 175-8
Full text. e-Journal: *http://www.medassocthai.org/journal*

Intestinal capillariasis, a fish-borne parasitic zoonosis, is endemic mainly in the Philippines and Thailand. Humans get these parasites, *Capillaria philippinensis*[1], by eating raw freshwater fish that harbor larva within their muscles. The larvae invade and live in the mucosa and submucosa of the small intestine of the human host, causing chronic inflammation and villous atrophy. The definite diagnosis relies on identification of worms' eggs, larvae, or adult worms in the stool[2]. Regarding its life cycle, detection of parasites or eggs in jejunal or ileal tissue[3,4] or small bowel contents[5] also provides a crucial diagnosis. The diagnosis of intestinal capillariasis is unusually made by gastrointestinal endoscopy and is rarely reported. Here, the authors reported a case of intestinal capillariasis diagnosed by endoscopy. The worms' eggs were found in the jejunal contents, and larvae were demonstrated in jejunal mucosal biopsied specimen. The endoscopic findings were also shown in the present report.

A 27-year-old Thai man presented with chronic watery diarrhea for two years. He passed stool five to ten times a day with occasionally colicky pain, abdominal distension, and vomiting. History of eating raw freshwater fish was obtained. He was admitted to a primary care hospital several times before this admission, without any identifiable causes. Anthelminthic therapy was used as therapeutic trial. He improved intermittently. He had lost twelve kilograms in the past two years and became ill looking, and emaciated. On physical examination, pale conjunctivae were detected. Borborrygmi sign, ascites, and pitting edema were presented without organomegaly.

Complete blood count showed hemoglobin of 6.8 g/dL and white blood cell count was 6,800 cells/mm^3 (eosinophil 1%). The red blood cell morphology was hypochromic and microcytic pattern. Serum albumin, globulin, potassium, magnesium was 1.6 g/L, 1.6 g/L, 3.1 mEq/L, and 1.8 mg/dL, respectively.

The other blood chemistry tests were all within normal ranges. Routine stool examinations were negative for parasites and white blood cell but positive for occult blood test. There were three negative stool tests by formalin-ether concentration method. Stool culture for *Strongyloides stercoralis* was negative. Small bowel radiologic barium examination revealed irregularity with thickened mucosal fold of proximal and distal jejunum. Smooth contour and unindented

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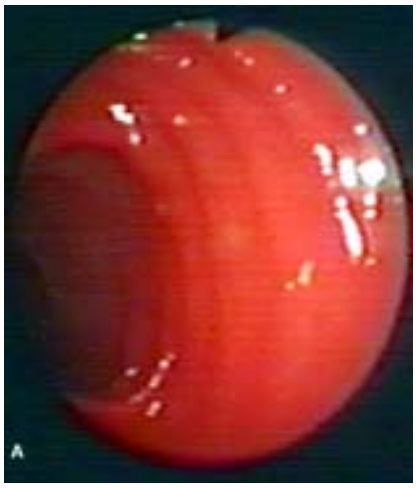
margins of barium filled the ileal loop. Moulage sign was demonstrated (Fig. 1).

Enteroscopic examination of the small bowel was done to find out the exact causes. It was done using fiberoptic enteroscope (Olympus SIF-10). It showed segmental erythematous and swelling of proximal jejunal mucosa (Fig. 2A) with an area of superficial erosion covered by exudates (Fig. 2B), which was a non-specific finding of the inflammatory process. Jejunal content was aspirated and Capillaria eggs were found under microscopic examination (Fig. 3). Histological study of jejunal mucosa demonstrated adult small nematodes lying in a mucosal crypt. Longitudinal section through the anterior end of the parasite shows the long stichosome (Fig. 4). He was treated with albendazole 400 mg/day for 14 days. Considering nutritional support, total parenteral nutrition was introduced and then followed by enteral nutrition support after clinical improvement of diarrhea and vomiting. After five days of albendazole therapy, diarrhea was completely stopped. He gained nine kilograms, and serum albumin was increased to 3.4 gm/dL at eight weeks after treatment.

The most common clinical symptoms in intestinal capillariasis are chronic watery diarrhea, mal-

Fig. 1 Small bowel radiologic barium examination at 15 minutes after barium ingestion illustrates malabsorption pattern

(A)



(B)

(C)

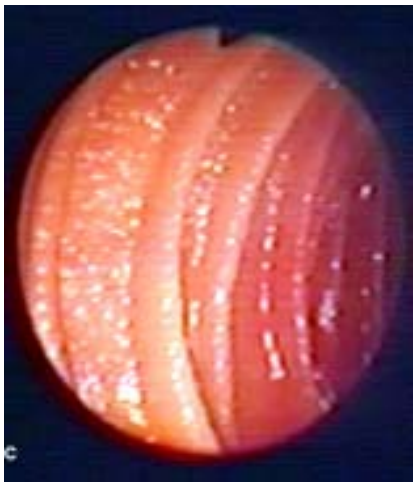


Fig. 2 Endoscopic study showed swelling and erythematous jejunal mucosa (A) with erosion and exudates (B). Comparing with normal jejunal mucosa (C) at 10 cm distal to figure A and B

Fig. 3 *C. philippinensis* egg observed in jejunal content

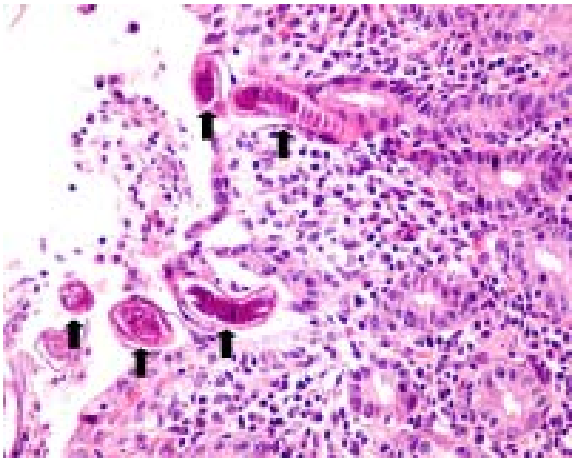


Fig. 4 Multiple longitudinal and transverse sections of *C. philippinensis* worms (arrow) embedded in intestinal mucosa. Hematoxylin and eosin, x 400

absorption, and wasting. This patient was presented with classical clinical manifestations even though peripheral eosinophilia was not presented. Repeated stool examinations and cultures may enhance the possibility of diagnosis in suspected cases. Previously inadequate anthelmintic therapy may mask and make a difficulty in diagnosis. There was a limitation of stool examination by formalin-ether concentration method in the presented case because this technique is not suitable for watery stool. Sedimentation is more appropriate. In capillariasis, observation of stool content can detect adult worms floating on the surface. Jejunal mucosal histological study and microscopic jejunal content examination may be helpful in possible cases with negative repeated stool tests. There was a report of intestinal capillariasis diagnosed by endoscopy in a child. The gastroduodenoscopy showed normal jejunal mucosa although histological sections revealed flattened villi, crypt proliferation, acute inflammation, and eosinophilic granulomata[6] without larva identification. To the authors' knowledge, this is the first case that demonstrated abnormal endoscopic findings with worms' detection in adult intestinal capillariasis.

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รายงานลักษณะความผิดปกติจากการส่องกล้องตรวจกระเพาะอาหารและลำไส้และลักษณะทางพยาธิวิทยาในผู้ป่วยพยาธิ Capillaria ในลำไส้

อภิชาติ แสงจันทร์, อาทิตย์ วงศ์แสนสุข, จุไรรัตน์ กุหลาบแก้ว, กิตติศักดิ์ สวรรยาวิสุทธิ์, วัฒนา สุขีไพศาลเจริญ, พิศาล ไม้เรียง

ผู้ป่วยชายไทย อายุ 27 ปี มีอาการท้องเสียเรื้อรังเป็นเวลา 2 ปี การวินิจฉัยพยาธิ Capillaria ในผู้ป่วยรายนี้ทำได้โดยตรวจพบพยาธิจากสิ่งส่งตรวจจากการส่องกล้องตรวจลำไส้เล็กโดยที่ไม่พบพยาธิจากการตรวจอุจจาระ รายงานนี้ต้องการนำเสนอความผิดปกติจากการส่องกล้องตรวจลำไส้เล็กซึ่งพบว่ามีการบวมแดงและมีการถลอกตื้น ๆ เป็นส่วน ๆ ที่บริเวณผิวของลำไส้เล็กส่วน jejunum ตอนต้น การตรวจพบไข่พยาธิจากน้ำในลำไส้เล็ก และการตรวจทางพยาธิวิทยาพบพยาธิดังกล่าวจากการตัดชิ้นเนื้อส่วน jejunum ช่วยสนับสนุนการวินิจฉัยโรค ผู้ป่วยได้รับการรักษาด้วยยา albendazole และให้การตอบสนองต่อการรักษาที่ดี