Protein-losing Enteropathy secondary to Intestinal Capillariasis – a case report from Singapore

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Background

Intestinal infection due to *Capillaria philipinensis* causes chronic diarrhea and malabsorption with cases reported mainly from Philippines and Thailand. Untreated disease has devastating consequences and carries a substantial mortality.

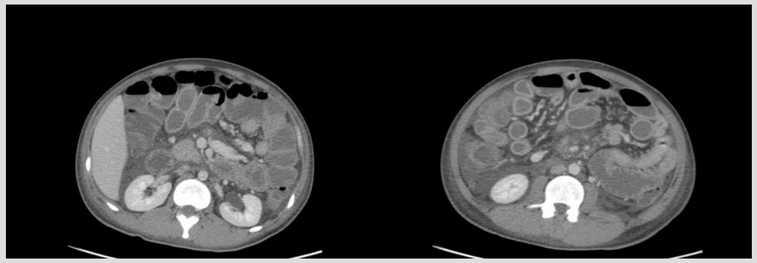
We present the first reported case of intestinal capillariasis in Singapore.

Results

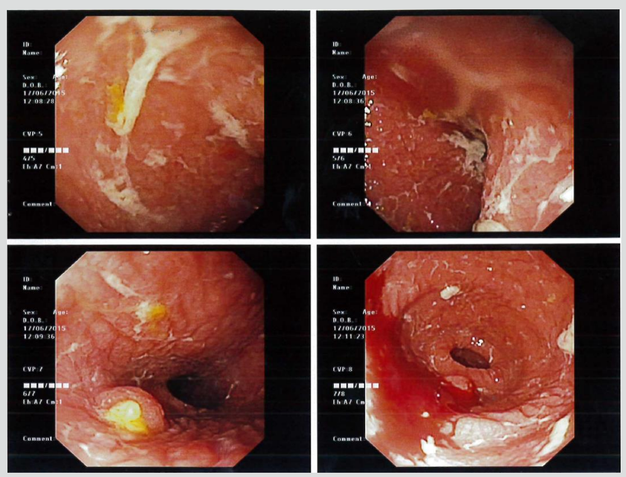
A 32 year old male foreign worker, with no significant medical history, presented with bilateral lower limb swelling and 18 months of watery, non-bloody, non-mucoid diarrhea associated with weight loss of 17kg. He did not have fever, chills, facial swelling, frothy urine, joint pains or rash. He was not on long term medications. He originated from northern Philippines, Ilocos Sur province and relocated to Singapore in 2011 working as an aircraft technician. He used to enjoy fishing in a lake near his home town but since 2006 had no exposure to fresh water. He reported frequent raw fish ingestion in the form of "Kinilaw" in Philippines. He last returned home 4 months ago and travels to Philippines once to twice a year.

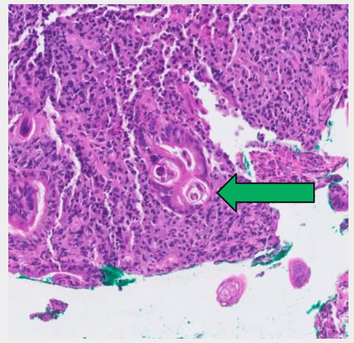
Investigations revealed anemia and leukopenia with a hemoglobin of 10.9 g/dL (NR 14.0-18.0g/dL) and leucocyte count of 3.69 x 10^9 cells/L (NR4.0-10.0 x 10^9 cells/L). There was no peripheral eosinophilia. He was profoundly hypoalbuminemic with protein levels of <30g/L (NR 68-85g/L) and albumin levels of <15g/L (NR 40-51g/L). He did not have proteinuria and multiple stool microscopy examinations for ova, cysts and parasites, strongyloides larvae and *Clostridium difficile* PCR were negative.

Magnetic resonance imaging enterography revealed distal jejunal and proximal ileal mural thickening (see below).



He underwent esophagoduodenoscopy and colonoscopy that were macroscopically normal. Double balloon enterography revealed moderate to severe enteritidis from mid-jejunum to ileum with friable mucosa (see below).





Random biopsies of jejunum showed distortion of small bowel architecture with active chronic enteritis, significant eosinophilia and parasitic organisms (see left).

In view of the above, a search for strongyloides hyperinfection was performed. Serology for strongyloides and HTLV-I/II and strongyloides PCR performed on the biopsy tissue were negative. Slides were reviewed in conjunction with the histopathologist. In view of his epidemiological exposure, histological appearance of the parasite and negative strongyloides tests, we found the diagnosis consistent with intestinal capillariasis. He received oral Albendazole 400mg daily for 28 days with cessation of diarrhea by the 14th day of treatment. Post treatment, he had complete resolution of symptoms and weight gain of 3kg.

Conclusion

Intestinal capillariasis is rare and to our knowledge, this is the first case seen in Singapore. This parasite is acquired via the ingestion of raw or undercooked infected fresh water fish. The patient presented with protein-losing enteropathy and had previously sought help in other medical facilities locally and in Philippines without improvement. If left untreated, death may ensue due to the complications of malabsorption and dehydration. A detailed travel, social, dietary history and multidisciplinary collaboration are crucial in clinching the diagnosis and treating this deadly parasitic infestation.

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