■ *Case Report*

Intestinal infection with multiple parasites including Balantidium coli

N Poudyal[1], R Baral[1], N Gyawali[1], R Gurung[1], R Amatya[2]
[1]Department of Microbiology, B P Koirala Institute of Health Sciences, Dharan, Nepal
[2]Kist Medical College, Lalitpur, Nepal

Abstract

Balantidium coli is only parasitic ciliate and infrequent pathogen for human beings. The infection fundamentally affects the colon and causes variable clinical pictures, from asymptomatic to serious dysenteric forms. We present a case of diarrhea and abdominal discomfort with multiple parasites including *B. coli* in a patient from Sunsari, Nepal.

Introduction

Balantidium coli is an infrequent pathogen of human beings although it is the only ciliated human parasite. It is most commonly associated with pigs, hogs and monkeys. The humans acquire this by ingestion of food and water contaminated by pig feces. The infection primarily affects the colon and presents as mild abdominal discomfort to severe dysentery. It commonly infects the immuno-compromised host and those whose occupation involves frequent contact with pig feces.[1]

Case report

Freshly passed stool sample from an apparently healthy 19 year old male student, with complaints of borborygmy, mild abdominal discomfort and anorexia for 1 week was obtained in clinical laboratory service, Department of Microbiology, BPKIHS. The patient hailed from Inuruwa, Sunsari. His source of drinking water was tube well. There was no history of travel or contact with farm animals.

Within 1 hour of collection of specimen routine stool microscopy revealed plenty of spirally motile trophozoites around 50 µm long and 35 µm broad. The active spirally motile trophozoites were identified as *B. coli*. Other findings were ova of hookworm and cysts of *Giardia lamblia* and *Entamoeba coli*.

Address for correspondence:
Dr. Nimesh Poudyal
B P Koirala Institute of Health Sciences, Dharan, Sunsari, Nepal
Telephone: +977-025-525555 Ext. 2614
E-mail address: poudelnims@hotmail.com

A second saline mount was prepared from the same stool sample 3 hours after collection. No actively motile structures were appreciated. (Fig 1, Fig 2, Fig 3, Fig 4)

Fig 1: Trophozoite of Balantidium coli

Fig 2: Ova of Hook Worm

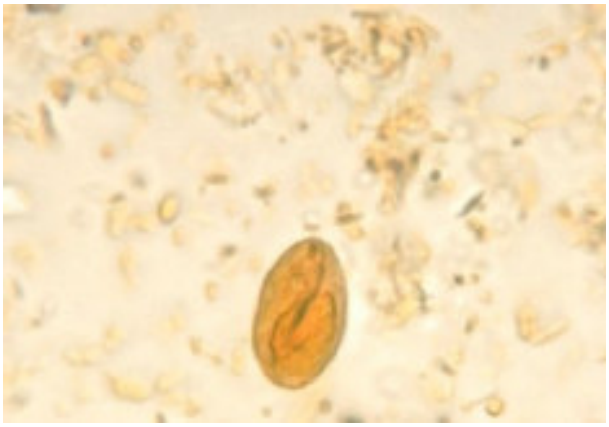

Fig 3: Cysts of Giardia lamblia

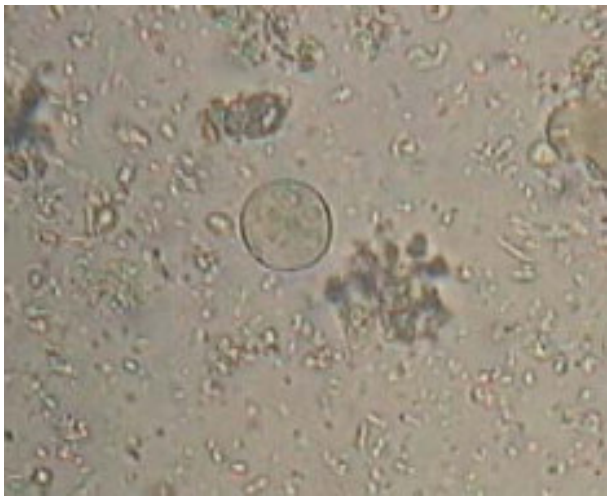

Fig 4: Cyst of Entamoeba coli

A repeat stool sample of the patient along with samples from other family members were examined the following day. None of the samples were positive for any parasite. The patient received a course of albendazole and metronidazole. At its completion, he was symptom free and tested negative for any gastrointestinal parasites.

Discussion

B. coli is the only ciliate protozoan causing human disease. Pig is the most common reservoir of this parasite.[2] It occurs most commonly in area with poor sanitation and in settings where human live in close contact with pigs, sheep and goats. It is transmitted primarily by eating food and drinking water that has been contaminated by human or animal feces containing *B. coli* cysts.[3]

In this case, there was no history of any contact with a pig and farm animals. Probably, the mode of transmission of this parasite might have been through contaminated food or water. This case underlines that *B. coli* should also be considered as a possible pathogen in patients with diarrhea even if they have no contact with pigs. The clinical presentation can range from mild to severe forms. It has also been reported as a cause of peritonitis.[4] Multiple parasitic infections, as in the case could be due to the common practice like unhygienic consumption of food, poor sanitation, unsafe drinking water.

Conclusion

Heavy infection with *Balantidium coli* is a rare occurrence. Multiple parasitic infections with relative lack of symptoms, no apparent epidemiological correlation with the infective agents are making the case more interesting. Retrieval of rare parasites was possible only because of prompt stool transport and early processing of it. This emphasizes the importance of correct instruction to the patients while collecting and transporting the stool specimen.

References

1. Schuster FL, Ramirez-Avila L. Current World Status of *Balantidium coli. Clin Microbiol Rev* 2008;21(4):626–38.
2. Esteban JG, Aguirre C, Angles R, Ash R, Mas-Coma S. Balantidiasis in Aymara children from the northern Bolivian Altiplano. *Am J Trop Med Hyg* 1998;59:922-7.
3. Yazar S, Altuntas F, Sahin I, Atambay M. Dysentery caused by *Balantidium coli* in a patient with non-Hodgkin's lymphoma from Turkey. *World J Gastroenterol* 2004;10(3):458-9.
4. Ferry T, Bouhour D, De Monbrison F, Laurent F, Dumouchel-Champagne H, Picot S, Piens MA, Granier P. Severe peritonitis due to *Balantidium coli* acquired in France. *Eur J Clin Microbiol Infect Dis* 2004;23(5):393-5.