

BALANTIDIASIS: A RARE INCIDENTAL FINDING IN THE URINE OF ELDERLY FEMALE WITH ARF- A CASE REPORT

Dr. Mayuri V. Thaker and *Dr. Mayuri R. Gohil

¹Assistant Professor, ²Tutor,
Department of Pathology, Government Medical College, Bhavnagar, Gujarat.***Corresponding Author: Dr. Mayuri R. Gohil**

Tutor, Department of Pathology, Government Medical College, Bhavnagar, Gujarat.

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ABSTRACT

Introduction: Balantidium coli (B.coli) is the largest and only ciliated protozoan producing disease in human. Most infections are asymptomatic or producing symptoms related to GIT, lung, urinary bladder, bone. Main stay of diagnosis is identification of morphology of the trophozoites and cysts. **Case Report:** A midstream urine of 50 year old female, with acute renal failure and septicaemia, was sent for routine urine examination. Physical finding showed mild turbidity only; Microscopy showed no other significant findings except plenty of yeast budding and parasites with rapid spiral motility. Parasite was ciliated oval shaped and showed ingested material, suggestive of morphology of trophozoites of B.coli. Fixed cytosmear, stained with H&E & Pap stain also showed cysts of B.coli. Repeat urine sample showed only cysts of B.coli. **Discussion:** B.coli is transmitted by feco-oral route or from other direct contact with pig/rat excreta. Presence of B.coli in urine may be due to retrograde infection of bladder itself or contamination with stool. In present case, source of infection may be contaminated meat ingestion. Patient's low socio economic status, poor situation, malnutrition, low immunity are contributory factors. **Conclusion:** Rare incidental finding of B.coli in Urine.

KEYWORDS: Balantidium coli, Protozoa, Trophozoites.**INTRODUCTION**

Balantidium coli (B.coli) is the largest ciliated protozoa, known to infect human. Pigs are the reservoir host. Transmission to human is via feco-oral route. Most of the human remain asymptomatic due to low virulence of B.coli. Symptomatic cases present with dysentery, similar to caused by E.Histolytica. Rarely, it invades extra-intestinal sites such as liver, lung and genito-urinary tract.^[1] This case is reported for rarity of B.coli in urine and for the purpose of documentation for future reference.

CASE REPORT

A 50 year old female presented with low urine output, vomiting, breathlessness with right foot cellulitis with septicaemia since 8 days. Patient was known case of IHD, pulmonary artery hypertension & complete heart block. A complete haemogram showed microcytic hypochromic anaemia with Hb level 10.2gm%. USG finding showed small size Rt. kidney with altered echogenicity. Patient had hypo-proteinemia and also altered renal function tests & liver function tests. Patient's fresh Mid-Stream Urine (MSU) was sent for routine and microscopic examination. Physical finding showed mild turbidity only. Microscopic examination showed 2-3 red cells /HPF, 0-2 pus cells/HPF, 3-5 epithelial cells/HPF, plenty of yeast budding and a

ciliated oval shaped parasite with rapid spiral motility suggesting morphology of Balantidium coli. Few ingested red cells and food vacuoles were seen in the cytoplasm of parasite. Fixed cytosmear, stained with H&E showed cysts of B. coli. Repeat urine sample showed only cysts of B.coli. Stool examination was negative for trophozoites and cysts of B.coli.

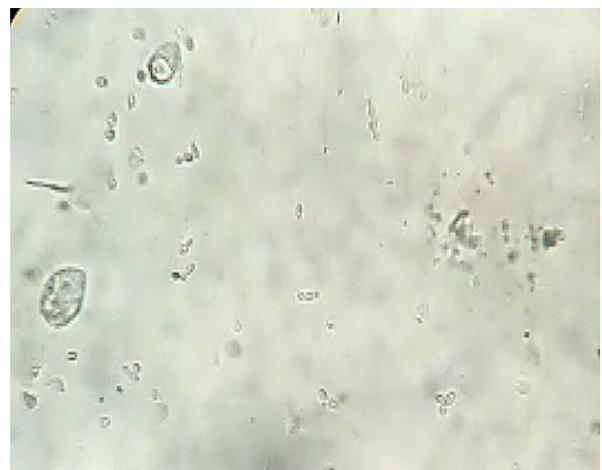


Figure-1: Trophozoites of B.coli (wet mount 40x)

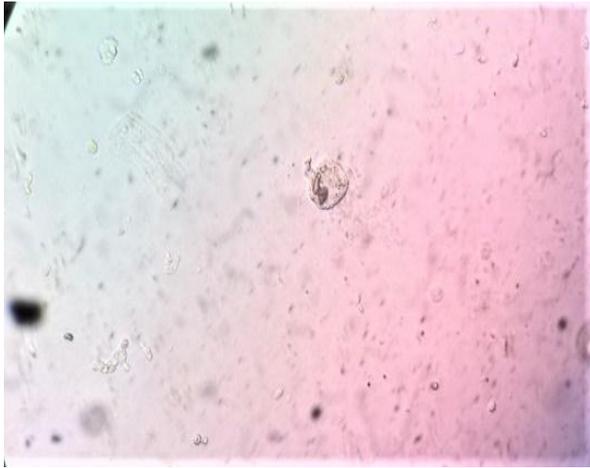


Figure-2: Cyst of *B. coli* (wet mount)

DISCUSSION

Balantidiosis is zoonotic disease caused by *Balantidium coli*. World wide prevalence is estimated to be 0.02 to 1%. *B. coli* passes its life cycle in two stages, Trophozoites are found in dysenteric form and Cysts are infective form found in chronic cases and carriers. Cysts get entry through ingestion of contaminated food or water either from faeces of a pig or man or via direct close contact with pig. After ingestion, cysts liberate trophozoites in large intestine which invade colonic mucosa. It resides and replicates by binary fission in large bowel.^[2] After that it propagates and produces ulcer and forms abscesses which may extend up to muscle layer. Remaining trophozoites and cysts passed through stool, contaminate food and water, and infect other human and pigs.

The parasite thrives mainly on starchy food found in abundance in pig's intestine so usually remain asymptomatic. The Scarcity of starchy food in human bowel explains the rarity of *Balantidium coli* infection in man.^[3] Tropical temperature and high humidity favour survival of excreted *B. coli* cyst in pigs and human faeces.^[4] Immunocompromised status, poor hygiene, malnutrition and alcoholism are other important risk factors.^[5] Clinical presentations can be as mild infection causing intermittent diarrhoea alternating with constipation or acute infection with symptoms like amoebic dysentery or chronic infection. Ulceration of colon is indistinguishable from amoebic ulcer. The diagnosis can only be established by detection of parasite in the tissue. Genitourinary infection includes uterine infection, vaginitis and cystitis, via direct spread from anal region or secondary to retro-vaginal fistula.^[2]

The diagnosis of *B. coli* infection is made by identifying typical morphology of trophozoites and cysts in urine/faeces. *B. coli* should be differentiated from *E. histolytica*, *Trichomonas* and *Paramecium*. Cysts of *B. coli* are large and binucleated, in contrast to cysts of *E. histolytica*, which are smaller and quadrinucleated. Trophozoites of *E. histolytica* move slowly whereas of

B. coli have rapid spiral motility. *Trichomonas* is flagellate, non ciliated organism which is easily distinguished from *B. coli*. The paramecium, is ciliated, but is non-pathogenic. Before reporting a case of urinary balantidiosis, faecal contamination must be ruled out.

In the present case, *B. coli* was incidentally identified in urine sample which may be due to retrograde infection of bladder itself or contamination with stool. The source of infection may be contaminated water or improperly cooked meat ingestion. Patient's low socio-economic status, poor sanitation, malnutrition and low immunity may be the other contributory factors in this case.

CONCLUSION

B. coli, a rare urinary pathogen can be found in urine even in the absence of diarrhoea or urethritis. Microscopic examination of fresh urine sediments can help in easy diagnosis of this large parasite, based on its characteristic morphology and rapid spiralling motility. Clean water and hygienic sanitary conditions and consumption of properly cooked food are the most effective strategies to prevent human infection.

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