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Letter to Editor

Candidal peritonitis associated with perforation –An interesting case of ascitic fluid cytology

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Dear Editor,

A female in her early 20s came from a rural hilly region of North India presented with bleeding per vaginum for 10 days and breathlessness for 1 day to emergency room. She had a history of ammenorrhea from two months and her obstetric history noted was P2L2. On examination, she had severe pallor, bilateral pedal edema, and bilateral chest crepitations. The pulse rate was irregular and was recorded 26 per minute. The blood pressure was 86/40 mmHg, and the SpO2 level was 86%. Per abdomen examination revealed mild abdominal distension and ascitis, but no rigidity or guarding was noted. The per vaginum and per speculum examination findings were insignificant. Her urine pregnancy test, which was performed in the emergency room, came out negative. Under all aseptic precautions, the ascitic tap was done and the aspirated fluid was collected in a sterile container. The fluid was submitted to the cytology department for microscopic examination. The patient was asked for an urgent ultrasound, electrocardiogram, and basic blood and urine investigations, but unfortunately the patient succumbed to death within 1 hour of her arrival.

On gross examination, specimen consist of 10 ml of dirty, turbid fluid labelled as ascitic fluid. The fluid was cyto-centrifuged and four cell button were made, air dried and then stained with Giemsa and rapid pap stains. Under the microscope [Figure 1a&b], smears examined revealed numerous fungal budding yeasts as well as its pseudohyphae along with anucleated and nucleated squamous epithelial cells and, vegetative food material. The background shows dirty proteinaceous material and bacterial colonies. Before concluding the Cytology report, possibility of contamination was ruled out by precisely investigating that the container used while sample collection was sterile and it was confirmed by clinician and also properly documented in the clinical notes. Thereafter, based on the cytomorphological findings, perforation peritonitis caused by Candida was suspected.

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The most required clinical workup was done by inquiring the patient's husband, as radiological interventions not performed. The vague history of unplanned pregnancy came out, and the patient had instrumental intervention for abortion from a local dai (quack), but they had no evidence or documentation for the same. Although, a history of two uneventful normal vaginal deliveries at the primary health care centre was noted, and past history of screening for viral markers were documented non-reactive in the discharge history.

Thereafter, a presumptive association with the most dangerous complication of post-curettage came into the

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picture. The uterine and intestinal perforations, along with candidal innoculation, were caused by the tools/instruments used by the local quack at the time of curettage. It spread to the uterus and peritoneal cavity. Finally, the spillage of intestinal contents and candidal infection led to perforation peritonitis, and the vaginal bleeding eventually led to the death of the patient.

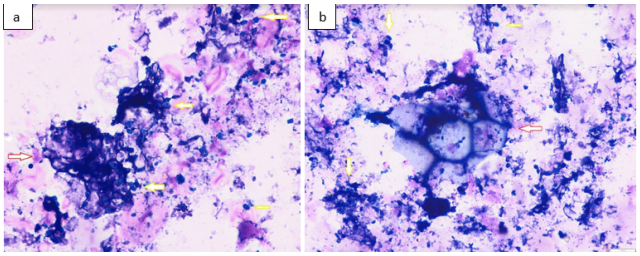

Fig. 1: a & **b**: Ascitic fluid cytology smears shows many budding yeast cells (yellow arrow) entangled in vegetative matter (red arrow). Background shows anucleated squames and debris (Giemsa stain, X 400)

This particular case was diagnosed on ascitic fluid cytology. Chakravarty et al. (2008)[1] reported a case of disseminated candidal peritonitis in an 85-year-old Hepatitis C-reactive male. Despite Amphoteric B medication, the patient succumbed to death, as is also the case in our case. The species Candida albicans is commonly responsible for causing candidiasis.[2] Candida albicans mainly have a reservoir in the human digestive tract, and colonisation further results in florid candidiasis, casing disseminated fungal infection and causing perforation at last. The diagnostic clue may be found on examination of the ascitic fluid.[1] The presence of Candida species in the ascitic fluid of such patients is uncommon, but when it occurs, it is highly significant.[3]

De Luis et al.[4] described Candidal peritonitis in ascitic fluid in two Hepatitis B reactive patients with liver cirrhosis. Candida species were found to be associated with grave outcomes when associated with peritonitis.[5] In the present case, the patient died within an hour of admission. In such reproductive female patients presented with peritonitis and ammenhorea, specially in countries where quacks are easily practicing, the ascitic fluid cytology is found to be highly diagnostic and indicative of perforation as well as its underlying aetiology such as bacteria or fungus. The differential diagnosis of acquired iatrogenic fungal infection when associated with perforation should be kept in mind. This letter is to enlighten the rarest cause to be kept in mind while dealing with vaginal bleeding female suspicious of a case of instrumental abortions.

Conflict of Interest

The authors declare that they have no competing interests for the manuscript titled “Candidal Peritonitis associated with Perforation- An Interesting Case of Ascitic Fluid Cytology”, further there is no conflict of interest among authors.

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Ethical Approval

Not applicable, as patient’s details has been kept confidential, not even her age is mentioned. Only generalised demographic data included in the manuscript.

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References

1. Chakravarty-Vartak US, Taklikar SM, Baradkar VP, Vartak S, Bhatt N. Peritonitis due to Candida albicans in a patient with chronic hepatitis C infection. *Saudi J Gastroenterol*. 2008;14(3):147. doi:10.4103/1319-3767.41736.
2. Bille J. Systemic mycotic infections: Epidemiology and diagnostic criteria. *Schweiz Med Wochenschr*. 1995;125(23):1123–9.
3. Wormser GP, Leber G, Tatz J, Reiner M, Kurtz R. Peritonitis in patients with liver disease and ascites: Use of Candida albicans as a microbiological clue in differential diagnosis. *Am J Gastroenterol*. 1980;73(4):305–9.
4. De Luis D, Aller R, Boixeda D, Meseguer M, Bermejo F, De Argila CM, et al. Spontaneous peritonitis caused by ascitic fluid with Candida albicans. *Rev Clin Esp*. 1997;197(7):500–1.
5. Blot SI, Vandewoude KH, De Waele J. Candida peritonitis. *Curr Opin Crit Care*. 2007;13(2):195–9. doi:10.1097/MCC.0b013e328028fd92.

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