

Acute Fatal Generalized Peritonitis in A Cow Due to Probable Faulty Intrauterine Medication

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Abstract

The present article describes a case report of acute and fatal generalized peritonitis in a cow. The peritonitis was diagnosed on peritoneal fluid examination and abdominal ultrasonography. The important clinical signs were anorexia, reduced milk yield, vaginal pain and abdominal pain, fever, and diarrhoea. On clinical examination, the peculiar finding was consistent pain on palpation of the caudal ventral abdominal quadrant on the right side and such pain response had not been reported in cattle. The peritonitis was ascribed to probable faulty intrauterine medication.

Keywords: Cattle, Intrauterine Medication, Peritonitis

Introduction

Bovine peritonitis usually occurs due to traumatic injury of the reticular serosal surface allowing the gut contents to enter the peritoneal cavity (Radostitis *et al.*, 2007). Less common causes include perforation of the abdominal wall from the exterior by penetrating foreign bodies, the introduction of pathogens or irritating substances into the peritoneal cavity, trocarisation of tympanic rumen or exploratory laparotomy (Cramers *et al.*, 2005; Alsaad *et al.*, 2006; Radostits *et al.*, 2007). The leakage of gut contents can also occur through perforating abomasal ulceration resulting in diffuse peritonitis (Hussain *et al.*, 2011). The clinical signs result from toxæmia and gut paresis (Hussain *et al.*, 2017).

Case History and Observations

A three-year-old cow was presented to the Teaching Veterinary Hospital of Faculty of Veterinary Science and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, with a history of illness from the last three days. The cow had parturated 10 days back with a history of retention of the placenta. On 6th day of lactation, a veterinary quack (non-trained self-styled field veterinarian, so-called veterinary doctor in our villages) administered some medicines by the intra-uterine route. On the next day of this treatment, the animal showed complete anorexia, sudden reduction in milk yield, abdominal pain and fever. For the first two days cow showed straining, elevated tail, dysuria and red-coloured urine, and on the third-day diarrhoea was observed. On clinical examination, the cow had increased rectal temperature (104.6⁰F), heart rate (90/min) and respiration rate (48/min). On palpation of the rumen, the motility was absent and mushy in consistency. There was slight bilateral abdominal distension. There was pain on palpation of the right caudal ventral abdominal quadrant on three repeated palpations.

Abdominocentesis anterior to the udder, post xiphoid and mid-abdomen sites revealed free-flowing peritoneal fluid (Figure 1). The peritoneal fluid was yellow in colour, turbid in consistency, foul smelling and had visible fibrin clots (Figure 2). Radiography ruled out traumatic reticuloperitonitis and ultrasonography revealed generalized peritonitis. A poor prognosis was explained to the owner but the owner was the willing to treatment of the animal. The cow was treated with oxytetracycline, metronidazole and meloxicam at the recommended doses along with supportive treatment but there was no response to the treatment and the animal died on the third day of the treatment.



Fig. 1: Abdominocentesis yielding yellow colour free flowing peritoneal fluid at anterior to udder site.



Fig. 2: Collected yellow colour peritoneal fluid showing visible fibrin clot

Discussion

To the authors' best knowledge, this is the first report of peritonitis in cattle due to faulty intrauterine medication. However, peritonitis secondary to breeding injury (exposure to bull or history of recent artificial insemination) is reported in the literature (Van Metre *et al.*, 2005). The clinical signs of anorexia, reduced milk yield and vaginal pain (straining, elevated tail, dysuria) and clinical examination findings were similar to that reported by Van Metre *et al.* (2005) for peritonitis secondary to breeding injury. The important additional signs in the present case were

abdominal pain, fever and diarrhoea. The vaginal pain signs and red colour urine on the third day indicated probable vaginal injury due to faulty intrauterine medication, and the resolution of these signs by the third day further validated our suggestion. As the animal had parturated only a week back and there was a history of retention of placenta, there were high chances that the genital tract had a possible high bacterial load. It is assumed that the possible uterine infection was carried into the peritoneal cavity by the vaginal injury and resulted in acute peritonitis. The atonic mushy rumen and bilateral abdominal distension indicated severe inhibition of gastrointestinal motility especially reticulo-rumen motility because the duration of illness was only three days. Inhibition of reticulo-rumen motility was attributed to toxemia due to generalized peritonitis (Radostits *et al.*, 2007). The peritoneal fluid changes were consistent with peritonitis for cattle (Hussain and Uppal, 2014) and did not need cytological examination for confirmation of peritonitis.

Due to the generalized nature and severity of peritonitis, the poor prognosis was explained to the owner. Cattle with frank or septic peritonitis are presumed as poor subjects for the treatment due to poor prognosis (Hussain and Uppal, 2014). However, on the owner's request, the medical treatment was tried but was not successful. Palpation of the right anterior paramedian region may assist one in the diagnosis of abomasal ulceration and the accompanying peritonitis (Hussain *et al.*, 2011) but the location of pain was different in the present case, ruling out chances of perforated abomasal ulcer. In the present case, there was consistent pain on palpation of the caudal ventral abdominal quadrant on the right side which was very unusual for cattle and such pain response has not been reported in cattle. This pain was attributed to inflammation of the peritoneal cavity and probably inflammation of the serosal layer of the intestines.

The main causes of peritonitis (TRP, abomasal ulceration, administration of irritants into the peritoneal cavity) were ruled out by clinical examination and radiography/ultrasonography. It is recommended that the field practice by veterinary quacks should be discouraged rather the owners should not consult them. The owners are advised to consult only trained veterinary doctors, in order to avoid such fatal cases in the future.

Contribution by Authors

Equal contribution

Conflict of Interests

There is no conflict of interest.

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References

1. Alsaad, K.M., Alsadi, H.I., & Eesa, M.J. (2006). Clinical and pathological aspects of peritonitis associated with traumatic reticuloperitonitis and ruminal tympanites in water buffaloes. *Iraqi Journal of Veterinary Sciences*, 20, 191-201. <https://agris.fao.org/agris-search/search.do?recordID=DJ20220808800>
2. Cramers, T., Mikkelsen, K.B., Anderson, P., Enevoldsen, C., & Jensen, H.E. (2005). New types of foreign bodies and the effect of magnets in traumatic reticulitis in cows. *Veterinary Record*, 157, 287-289. <https://pubmed.ncbi.nlm.nih.gov/16157571/>
3. Hussain, S.A., & Uppal, S.K. (2014). Haemato-biochemical changes and peritoneal fluid cytology in clinical cases of bovine peritonitis. *Indian Journal of Animal Research*, 48(2), 188-193. <https://arccjournals.com/journal/indian-journal-of-animal-research/B-2332>
4. Hussain, S.A., Shafi, T.A., Nanda, A., & Sood, N.K. (2017). Meloxicam induced abomasal ulceration in a buffalo. *International Journal of Livestock Research*, 7(3), 175-180. <http://ijlr.org/issue/meloxicam-induced-abomasal-ulceration-buffalo/#:~:text=The%20abomasal%20ulceration%20in%20present,prescribed%20it%20twice%20a%20day.>
5. Hussain, S.A., Uppal, S.K., Randhawa, C.S., & Sood, N.K. (2011). Frank exudative peritonitis due to perforated abomasal ulceration in a cross bred cow. *International Journal of Agro Veterinary and Medical Sciences*, 5(5), 447-451.

https://www.academia.edu/25698989/Frank_Exudative_Peritonitis_Due_to_Perforated_Abomasal_Ulceration_in_a_Cross_Bred_Cow

6. Radostits, O.M., Gray, C.C., Hinchcliff, K.W., & Constable, P.D. (2007). Diseases of alimentary tract-II. *A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses*, 10th Edn. WB Saunders Company Ltd. pp. 352-353.
7. Van Metre, D.C., Callan, R.J., Holt, T.N., & Garry, F.B. (2005). Abdominal Emergencies in Cattle. *Veterinary Clinics of North America Food Anima Practice*, 21, 655-696. <https://pubmed.ncbi.nlm.nih.gov/16243629/>
