Surgical Management of Traumatic Ruminal Fistula in an Ongole Cow

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Abstract
An Ongole cow with traumatic rumen fistula at the left 8th intercostal space was treated by performing rumenotomy. The rumen was evacuated off its contents and exteriorized through the left flank incision and from there, the fistula was sutured. Non involvement of diaphragm in this case, though it is close to eighth intercostal space could save the patient.

Key words: Traumatic fistula, Rumenotomy, Cattle

Introduction
Experimental fistulation is performed in many farm animals as a part of research linked with feeding trials. However, accidental fistulation of fore stomachs in cattle is relatively infrequent. Trauma due to sharp objects on the flank can result in injuries even to the internal organs. Such injuries causing fistulas have been found to be associated mostly with abomasum (Costa et al, 2002). Fistulation has been recorded as a post surgical complication following right paramedian abomasopexy in dairy cattle (Sams and Fubini, 1987). But there are very few reports on traumatic fistulation of rumen in cattle. Hence, in the present paper, successful repair of a traumatic rumen fistula in a cow has been reported.

History and Clinical Examination
An Ongole cow aged about 8 years was presented to the Department of Veterinary Surgery and Radiology with a history of an exudating wound at its left eighth intercostal space (Fig.1). There was a penetrating wound on the left flank due to a horn gore resulting from infighting. The wound was chronic and exudating type. The discharge was initially purulent but later became greenish due to its mixing with the ruminal contents. The animal was said to have been treated by the local veterinarian with higher order antibiotics and analgesics with usual antiseptic dressing without any improvement.
Clinical examination of the animal revealed a penetrating wound at the middle of the left eighth intercostal space. The animal was apparently normal with usual appetite. Discharges were evident from the injured site which were greenish and intermittent initially and became purulent and foul smelling on subsequent days. The discharges appeared increasing, when the animal lied down. The temperature pulse and respiratory rates were well within the physiological ranges.

On examination, the rumen wall was found injured and adhered to the flank wall at the wounded region. Auscultation of the lungs revealed no abnormality. Careful examination of the discharge
established the fact that it was fresh rumen cud and hence, the condition was diagnosed as rumen fistula.

**Treatment and Discussion**

The fistula in the rumen was repaired surgically. Prior to surgery, the animal was kept off-feed for two complete days to evacuate the rumen. Adequate fluids like Lactated ringers solution @ 40 ml/Kg body weight were given to maintain the hydration status. Prophylactic antibiotic therapy was initiated using streptopenicillin @ 5 gm per day intra muscular.

Rumenotomy was performed following standard procedure under sedation with xylazine hydrochloride @ 0.05 mg/kg i.m and local analgesia was achieved by inverted L block using 2% lignocaine hydrochloride. The rumen was temporarily fixed to the abdominal wall. After incising the rumen wall, the contents were evacuated completely till when the rumen wall was found folding. After ruminal incision was closed, the adhesions between the rumen and abdomen at the site of fistulation were carefully broken down. Then the ruminal wall was pulled caudally to the level of flank incision and the fistulous orifice on the rumen was identified and repaired with a double row of inversion sutures (cushing followed by lambert) using no. 2 chromic catgut. Peritoneum and muscles were sutured with chromic catgut No.3, subcuticular sutures were placed with chromic catgut no. 1. Skin edges were approximated with braided black silk in horizontal mattress pattern (Fig. 2).

The cutaneous wound at the eighth intercostal space was treated as open wound for the following seven days. Amoxicillin and Cloxacillin 3 gm intra muscular was given daily for 7 days. Meloxicam was given @ 0.3 mg/Kg for five days. Sutures were removed on 12th postoperative day and the animal recovered completely without any complications (Fig 3).

Fistulas of compound stomach have been frequently observed and usually associated with trauma (Sharma et al 2011). Among various compartments, abomasum appears more common to become fistulated traumatically followed by rumen. Similar to the present case, Prakash and Ravi (2009) also recorded a successful case of acquired traumatic ruminal fistula in cattle. Parker and Fubini (1987) documented the fistulation of abomasum in cross bred cows. Marudwar
et al (1977) recorded a case of reticular fistula in a bullock. Prakash and Ravi (2009) also treated a similar case of rumen fistula at left para lumbar fossa nearer to last intercostal space in cow.

Contrary to these findings, Costa et al (2002) treated abomasal ulceration and abomaso-pleural fistula in an old beef master bull which died later due to development of pneumo peritoneum. The success in the present case could be attributed partly to the fact that the diaphragm was not involved.

Sangwan et al (2011) treated a case of abomasal-umbilical fistula in a cow calf, which was critical due to reduced electrolyte and acid base status of the calf. Contrary to this, the presence of wound on the lateral aspect might have not deteriorated the clinical status of the present case. Formation of adhesions between the rumen and abdominal wall might have prevented the theoretical probability of peritonitis.

References