

Radiographic and Ultrasound Diagnosis of the Traumatic Reticuloperitonitis

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방사선 및 초음파에 의한 창상성 복막염의 진단

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요 약 : Holstein 유우가 식욕감소와 함께 갑자기 유량이 줄어들고 복부의 타진시 심한 통증과 신음을 나타내어 방사선 및 초음파로 확인하였는데, 방사선 투시소견(fluoroscopy)상 길이 10 cm의 직선형 금속성이물이 제2위벽을 관통하여 있었으며 초음파상으로는 제2위벽의 장막과 횡격막의 유착을 관찰하였다. 금속성 이물을 제거하기 위하여 탐색적 개복술을 실시하였으나 복부의 심한 섬유소성 유착으로 이물을 제거하지 못하고 magnet와 항생제 및 수액을 실시 하였는데 수술후 점차 식욕 및 유량을 회복하였다. 대동물에서는 창상성 복막염에 대한 방사선 투시 및 초음파의 진단과 magnet 등의 투여가 매우 유익한 방법이었다.

Key word : Radiographic, ultrasonographic, reticuloperitonitis, magnet

History

A 5-year-old lactating Holstein cow was presented for evaluation of decreased appetite, sudden decrease in milk production from 30 kg to 3 kg. The cow had calved 5 months previously and now 2.5 months pregnancy. It had been treated by the referring veterinarian with medication for indigestion, with no response. The rectal temperature 38.5°C, pulse 60/min and respiratory rate 18/min were within normal limit. The rumen motility was decreased. Total white blood cell number was 7300/uL, Total plasma protein concentration was 8.3 g/dL, GOT 58 IU/L, r GTP 26 IU/L and total cholesterol 178 mg/dL. White blood cell count was segmented neutrophils 54%, lymphocytes 38%, monocytes 5% and eosinophil 3%. Mild bilateral abdominal distensions were present. Abdominal pain was observed following sternal ballotment and withers pinch. Bas-

ed on simultaneous percussion and auscultation of the abdomen they presented severe pain. The abdominal wall of the bilateral paralumbar fossa was slightly contractions. Traumatic reticuloperitonitis was suspected and standing lateral cranioventral abdominal radiograph and ultrasonography were made.

Diagnosis

Radiographic finding

A fluid line with a triangular opacity was seen associated with the cranioventral abdomen. A linear metallic foreign body measuring 10 cm in length was located outside of the reticulum(caudoventrally). Reticulum has abnormal size, shape, and location.

Ultrasonographic examination

Transabdominal ultrasonography was performed with a 5.0 MHz curved array transducer in the right ventral abdominal region. Examination of transverse and sagittal images permitted recognition of the ad-

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ered segment of diaphragm and ultrasound examination confirmed adhesion of serosal surfaces to the reticulum wall.

Discussion

Traumatic reticuloperitonitis is a common problem of cattle. A tentative diagnosis of traumatic reticuloperitonitis often is based on the animals history and physical examination findings(anorexia, acute drop in milk production, decreased rumen motility, cranial abdominal pain) with or without supportive laboratory data⁴.

In cattle, reticular radiography is a useful aid for the diagnosis and management of traumatic reticuloperitonitis^{1,2,3}. Also, ultrasonography findings supported a diagnosis of traumatic reticuloperitonitis with a large perireticular adhesion and abscess⁶.

This cow was suspected with traumatic reticuloperitonitis. The cow presented abdominal pain with sternal ballotment and withers pinch. Also sudden decreased in milk production from 30 kg to 3 kg.

Radiographic findings showed apparent a metallic foreign body in the reticulum wall and observed intra-abdominal adhesions were observed by ultrasonography. But the metallic foreign body was not lanced due to the proximity to the heart and risk of per-

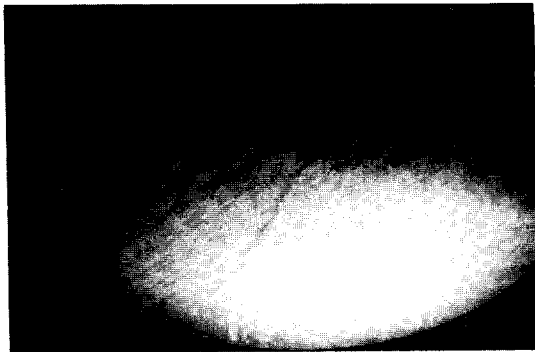


Fig 1. A linear metallic foreign body partly through the reticulum wall.

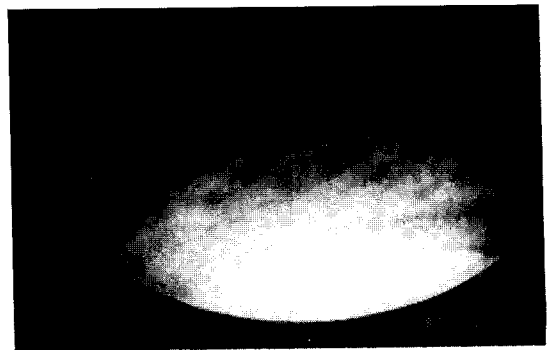


Fig 2. A foreign body embedded in the reticular wall.

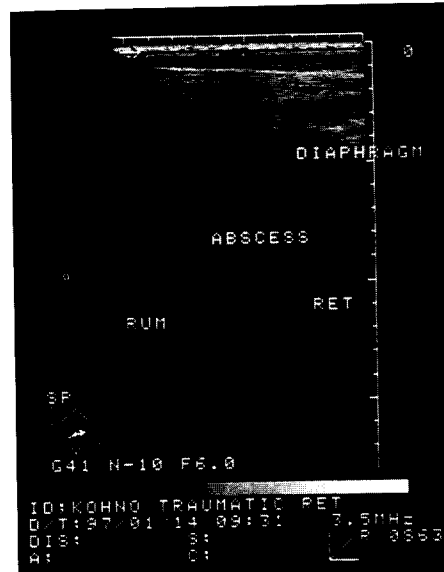
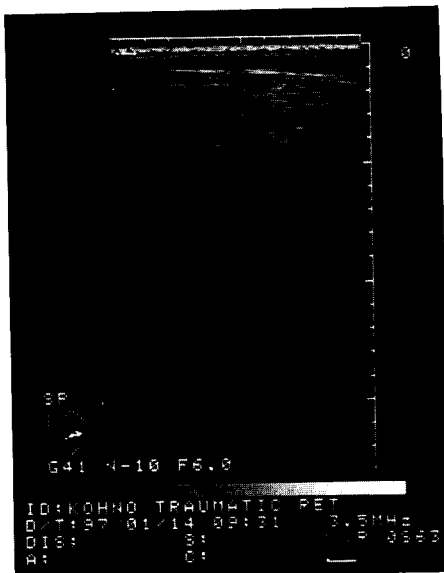


Fig 3. Adhesion of serosal surface from the cranial reticulum to the diaphragm.

icardial contamination or cardiac laceration.

In this case, the decision-making process was made to determine optimal medical and surgical treatment for cow with traumatic reticuloperitonitis.

The exploratory laparotomy were performed but could not removed the metallic foreign body. Because there were several fibrous adhesions extending from the cranial reticulum to the diaphragm.

After surgery, the cow treatment was generally attempted first and includes the administration of a magnet, antibiotic (ampicillin 3 g) and fluid (saline 1 L) for 10 days.

Surprisingly, the cow became to recovery condition with resumption of rumen motility, appetite and increased in milking production within 3 to 5 days.

Secondarily, on the reticular radiography a metallic foreign body was not seen. It was probably that the foreign body was attached to a magnet in reticulum.

Reticular radiography and ultrasound proved to be useful diagnostic aids in cattle suspected of having traumatic reticuloperitonitis.

Result of this case indicate that standing reticular radiography and ultrasound are useful in determin-

ing whether surgery should be performed on a cow suspected of having traumatic reticuloperitonitis.

Furthermore, reticular radiography gives the surgeons an indication of potential pathologic conditions.

Reference

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