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THE RUMEN OF CALVES - ENDOSCOPICAL VIEW OF ANATOMICAL STRUCTURES

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Introduction: Endoscopy, the inspection of body cavities by means of optical devices, has enjoyed growing importance in veterinary medicine in recent years. Today it represents an essential method of examination, aiding diagnosis and prognosis also in cattle medicine. As mentioned in various reports endoscopy is also used for scientific works and is helpful for education.

The aim of our study was to demonstrate the inside of the rumen of calves by endoscopic examination. This work was performed within the framework of a study concerning development of rumen acidosis in calves.

Material and Method: The rumen of 6 Holstein calves (age between 1 and 2 months, male) was examined by passing the fiberscope through the oral cavity and oesophagus and through a permanent fistula, placed in the left paralumbar fossa, respectively. Depending on the access, ruminoscopy was performed with a flexible endoscope of different length and diameter. The endoscopic visible anatomical structures of the rumen were described. Additionally the impression of the left kidney and the spleen were examined by percutaneous sonographic examination. Further on the act of drinking, feeding by nipple drinker and installing of a stomach tube were documented.

Results: Following anatomical structures could be viewed by passing the flexible endoscope through the permanent fistula: dorsal and ventral sac of rumen with the caudal and cranial pillar of rumen; the impression of spleen and left kidney, the ruminoreticular opening and the reticular groove. The mucous membrane of all these structures was evaluated. During drinking an immense enlargement of the abomasums could be visualized from the inside of the rumen. The sonographic examination of the left kidney and spleen determined the endoscopic findings. Passing the fiberscope through the oral cavity just the dorsal and little parts of the ventral sac of rumen could be visualised.

Summary and conclusions: Endoscopic examinations represent non invasive or minimally invasive examination methods suitable for application in cattle. It allows for direct visualisation and thus real representation of visible surfaces. Basic knowledge of anatomy and of the normal endoscopic appearance is a necessity for successful use of endoscopy.

In summary, the diverse possibilities endoscopy offers in cattle represent an important advance in large animal medicine in regard to diagnosis, prognosis, therapy as well as education.