DIGITAL ATLAS OF BOVINE SOFT TISSUE ENDOSCOPY - A NEW LEARNING TOOL FOR VETERINARY STUDENTS AND BOVINE PRACTITIONERS

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Introduction: Over the past years, endoscopic examinations in veterinary medicine became increasingly important and markedly improved the range of clinical diagnostics. Endoscopic techniques such as thelscopy, tracheoscopy, rhinoscopy, oesophagoscopy, cystoscopy, and laparoscopy are of special interest in bovine medicine.

Objectives: In order to make our vast experience in soft tissue endoscopy of cattle available to a wider audience, we decided to work up our case collection into an electronic atlas.

Materials & methods: The electronic atlas is based on the popular flash-format, which is suitable for web distribution as well as for distribution on DVD. For development we used Adobe Flex 2.0, image and video editing was done with Adobe Fireworks 8.0 and Adobe Premiere Elements 3.0, respectively. All endoscopic examinations were performed with instruments produced by Karl Storz Endoskope®, Germany (http://www.karlstorz.com). Swiss federal animal protection law was strictly respected at all times. Video sequences from

(i) the Clinic for Ruminants, Vetsuisse faculty of Berne, Switzerland,

(ii) the clinic for Cattle, Vetsuisse faculty of Zürich, Switzerland and

(iii) the clinic for cattle, Justus-Liebig University of Giessen, Germany were used for this atlas.

Results: At the Clinic for Ruminants of the Vetsuisse-Faculty of Berne, Switzerland, an average of 15 endoscopies are performed per month, 90% of which are of diagnostic significance. Our documentation is based on clinical cases of a four years period (2004-2008) and contains more than 60 sequences of pathological findings and about 30 physiological sequences (250 screen shots) for comparison and some representative examples of endoscopically guided surgical interventions. Frequently diagnosed pathologies include teat obstructions, retropharyngeal processes and affections of the upper respiratory and the urinary tracts. Endoscopically guided surgical interventions include theloscopic removal of distal teat obstructions, fixation of the abomasum, and sampling of enteric lymph node biopsy.

Conclusions: The electronic atlas represents a suitable learning tool of bovine soft tissue endoscopy and endoscopically guided surgical interventions for veterinary students and practicing veterinarians, allowing visual insight in a variety disease processes. The atlas is now available as a DVD at www.ruminantclinic.ch; www.cliniqueruminants.ch, or www.wiederkaeuerklinik.ch.