

PROCEEDING



international seminar

STRATEGY TO MANAGE BIO-ECO-HEALTH SYSTEM
FOR STABILIZING ANIMAL HEALTH &
PRODUCTIVITY TO SUPPORT PUBLIC HEALTH



Surabaya-Indonesia, 19-20 June 2012
JW Marriott Hotel Surabaya

EDITORS:

Michael P. Ward (Australia)

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Fedik Abdul Rantam (Indonesia)

Suzanita Utama (Indonesia)

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I-MHERE SUB-COMPONENT B.2.C PERFORMANCE BASED CONTRACT

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COMPARATIVE STUDY ON ENDOSCOPIC IMAGING: ESOPHAGOSCOPY AND GASTROSCOPY OF UPPER DIGESTIVE SYSTEM BETWEEN DOGS (*CANIS LUPUS*) AND CATS (*FELIS CATUS*)

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ABSTRACT

This study was purpose to distinguish of upper digestive tract between dogs (*Canine lupus*) and cats (*Felis catus*) through endoscopic approach. Three adult male dogs and ten male adult cats were used in this study. All animal received anesthetic agent prior to endoscopic imaging procedure. Endoscopic were taken from left recumbence with mouth gage on the mouth. Scope of endoscope inserted through the mouth until stomach. During this procedure, stream video captured all imaging of procedure and save the video. The result showed that there are differences in appearance between dogs and cats. On *esophagoscopy*, esophagus of cats in thorax region showed ring bone motif "tracheal like". However, esophagus of dog did not show that appearance until stomach. On *gastroscopy*, Other differences are stomach mucosa on the dog show rose colored typical. In other hand, in the cats stomach mucosa appearance more orange colored with more flatten rugae than dogs.

Keywords: cat (*Felis catus*), dog (*Canine lupus*), endoscopy, *esophagoscopy*, gastroscopy

INTRODUCTION

Most endoscopic instrumentation is produced for human medicine and surgery. The veterinary practitioner can use that instrument to address minimally invasive approach to provide an efficacious solution to the medical and surgical challenges (Tams & Rawlings 2011). Gastrointestinal (GI) endoscopy is one of the best and yet most fundamental methods of examining the GI tract. *Esophagoscopy* also the most reliable for the diagnosis of disorders that disrupt the mucosa or obstruct the lumen, such as esophagitis, stricture, foreign body, and neoplasia. It is a well-established procedure in veterinary medicine internationally. However, in Indonesian veterinary practitioner, endoscopic instrumentation for for diagnostic and surgery approach still unwidely used.

MATERIALS AND METHODS

Three adult male dogs and ten male adult cats were used in this study. All animal received anesthetic agent prior to endoscopic imaging procedure. Endoscopic were taken from left recumbence with mouth gage on the mouth. Scope (9 mm in diameter; 130 cm in length) of flexible endoscope (Gastra B; PT Karindo Alkesteron Indonesia) inserted through the mouth until stomach. During this procedure, stream video captured all imaging of procedure and save them.

RESULT AND DISCUSSION

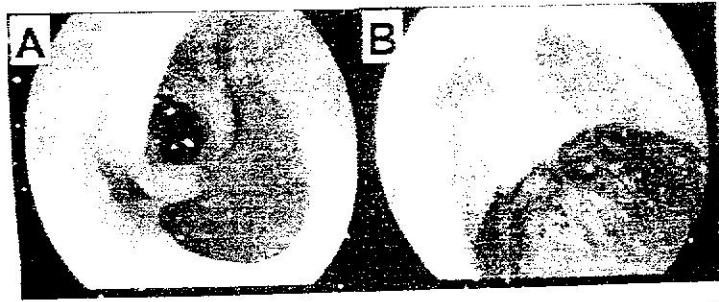


Figure 1. Pharyngoscopic imaging. A. Feline, showed that epiglottic is open; B. Canine, epiglottic attached to palatum.

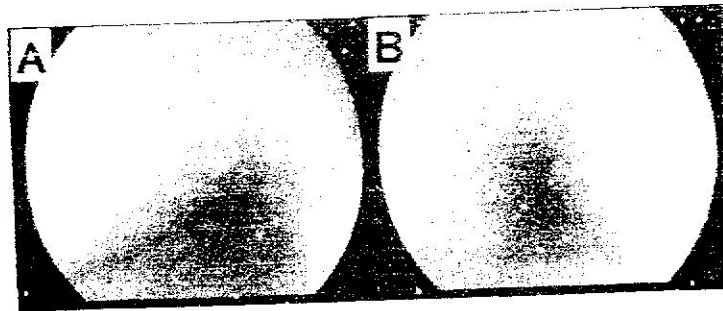


Figure 2. Esophagoscopy imaging, cervical region. A. Feline; B. Canine. Esophagus appearance not differences.

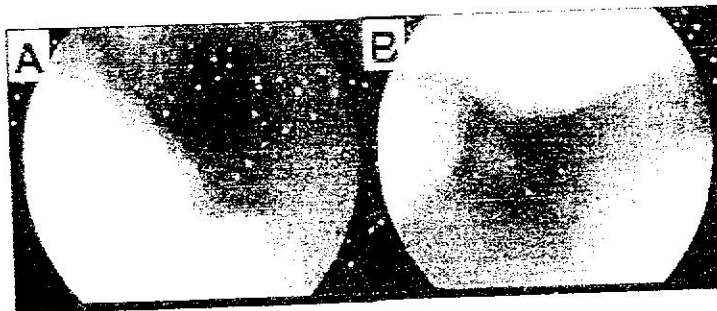


Figure 3. Esophagoscopy imaging, thoracic region. A. Feline, showed ring bone motif "tracheal like" (herringbone) appearance; B. Canine, esophagus appearance same as cervical region.

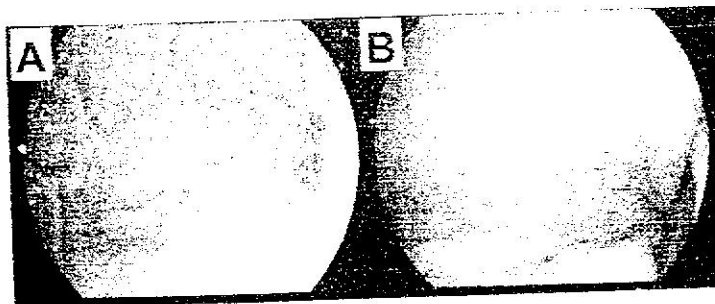


Figure 4. Gastroscopy imaging. A. Feline, piloric of stomach appearance. The cats stomach mucosa appearance more orange colored with flatten rugae; B. Canine, piloric of stomach showed that mucosa towel like appearance. Furthermore, stomach mucosa on the dog show rose colored typical with rugae.

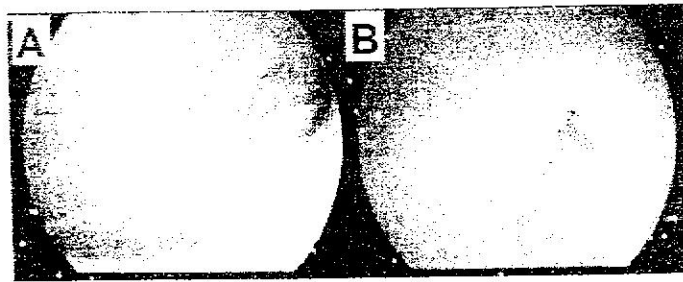


Figure 5. Gastroscopic imaging. A. Feline, fundic of stomach appearance; B. Canine, fundic of stomach showed that mucosa towel like appearance.

Flexible endoscope has become an essential diagnostic tool for the small animal veterinarian (Mitchell & Tully 2008). The term *esophagoscopy* refers to examination of the lumen and mucosal lining of the esophagus with endoscopic equipment. In most cases, esophageal disease is diagnosed by the clinical history combined with contrast radiography of the esophagus, *esophagoscopy*, or both (Tams & Rawlings 2011). Radiography is the preferred method for documenting megaesophagus, motility dysfunction, vascular ring anomalies, and hiatal hernia (Thrall 2002). *Esophagoscopy* not only is a valuable diagnostic procedure but also is useful as a therapeutic intervention (Tams & Rawlings 2011).

Gastroscopy mainly identifies abnormalities of the gastric mucosa, but it may also reveal distortion of the stomach's normal anatomic relationships by displacement or extrinsic compression as a result of a mass or entanglement of an adjacent organ (Tams & Rawlings 2011). Gastroscopy has become the most valuable diagnostic method available for evaluating primary gastric disorders of the gastric mucosa (Abdullah *et al.* 2011). This modality significantly increases the diagnostic yield in comparison with contrast radiographic studies, which are somewhat less sensitive in the evaluation of mucosal disorders. Endoscopic examination of the stomach has improved early diagnostic capability significantly and has highlighted the fact that gastric mucosal disorders occur fairly often (Tams & Rawlings 2011).

CONCLUSION

This study showed that feline and canine have differences appearance in gastrointestinal endoscopic imaging.

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