

Radiographic evaluation of Chlorpromazine and Cisapride effect on gastro-intestinal transit time of contrast media in cats

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Abstract

Radiography of contrast media is an imaging method which provides high-resolution images for Gastro-intestinal. It has a prominent role in the evaluation of gastro-intestinal transit time of contrast media in small animal and humans. The aim of the present survey was a radiographic evaluation of chlorpromazine and cisapride effects on gastro-intestinal transit time of contrast media in cats. This study was performed on eighteen clinically healthy adult native cats. For this purpose, the cats were divided into three groups. The control group was received only ketamine (20 mg/kg), before administration of contrast media. The chlorpromazine group was received a combination of chlorpromazine (0.5 mg/kg, IM) and ketamine and cisapride group was received cisapride (2.5 mg/cat BW, PO) and ketamine, before administration of contrast media. There were six cats (three males and three females) in each group and survey radiographs were taken at zero, 20, 40 and 60 minutes after administration of contrast media and followed each hour until arriving contrast media to the colon. It was shown that was not a significant difference in contrast media emptying time between control and chlorpromazine groups, but was noted a significant difference between cisapride with control and chlorpromazine groups. The averages of complete evacuation time of contrast media from stomach were 70, 43.3 and 30 minutes for the control, chlorpromazine and cisapride groups respectively. A significant difference was detected between the control and two other groups, but not between chlorpromazine and cisapride groups. Gastro-intestinal transit time of contrast media was not affected by gender. The results showed that there was a significant difference between different treatment groups in the start time of contrast media evacuation from the stomach, but the difference was not significant for complete evacuation time of contrast media from the digestive system.

Key words: Radiography, Contrast media, Chlorpromazine, Cisapride, Cat

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References

- Chang, J.H.; Lee, K.C.; Yoon, J.H. And Choi, M.C. (2004). Radiographic contrast study of the upper gastrointestinal tract of eight dogs using carboxymethylcellulose mixed with a low concentration of barium sulphate. *Veterinary Record*, 154(7): 201-204.
- Croffie, J.M.; Ellett, M.L.; Lou, Q. and Fitzgerald, J.F. (1999). A comparison of the effect of three sedatives on esophageal sphincters in cats. *Digestive Diseases*, 17(2): 113-120.
- Eagon, J.C. and Kelly, K.A. (1993). Effects of gastric pacing on canine gastric motility and emptying. *American Journal of Physiology-Gastrointestinal and Liver Physiology*, 265(4): 767-774.
- Eastwood, G.L. and Avunduk, C. (1988). *Manual of Gastroenterology; Diagnosis and Therapy*, 4th ed. Brown publisher, Pp: 250-285.
- Faghihi, S.M. and Gandomi Sani, H.R. (2013). *Veterinary Pharmacy*. 3rd ed., Tehran University Press, Pp: 484-495. (In Persian)
- Gensen, S.C. and Pepers, M.P. (1998). *Pharmacology and Drug Administration for Imaging Technologists*. 2nd ed, Elsevier Health Sciences, Pp: 237-250.
- Goggin, J.M.; Hoskinson, J.J.; Kirk, C.A.; Jewell, D. and Butine, M.D. (1999). Comparison of gastric emptying times in healthy cats simultaneously evaluated with radiopaque markers and nuclear scintigraphy. *Veterinary Radiology and Ultrasound*, 40(1): 89-95.
- Hare, C.; Halligan, S.; Bartram, C.I.; Platt, K. and Raleigh, G. (2000). Cisapride or metoclopramide to accelerate small bowel transit during barium follow-through examination? *Abdominal Imaging*. 25(3): 243-245.
- Hogan, P.M. and Aronson, E. (1988). Effect of sedation on transit time of feline gastrointestinal contrast studies. *Veterinary Radiology and Ultrasound*. 29(2): 85-88.
- Hsu, W.H. (2008). *Handbook of Veterinary Pharmacology*. 1st ed., Wiley-Blackwell, Ames, Iowa, USA, pp: 249-250.
- Jansen, M.; Fass, J.; Tittel, A.; Mumme, T.; Anurov, M.; Titkova, S. et al. (2002). Influence of postoperative epidural analgesia with bupivacaine on intestinal motility, transit time, and anastomotic healing. *World Journal of Surgery*. 26(3): 303-306.
- Kealy, J.K.; McAllister, H. and Graham, J.P. (2010). *Diagnostic radiology and ultrasonography of the dog and cat*. 5th Edition. Elsevier Health Sciences, Australia, Pp: 25-50.
- König, H.E.; Liebich, H.G. and Bragulla, H. (2007). *Veterinary anatomy of domestic mammals, textbook and color atlas*. Schattauer Overflag., Stuttgart Germany, Pp: 278-285.
- Thrall, D.E. (2013). *Textbook of veterinary diagnostic radiology*, 5th ed. Elsevier Health Sciences, Astralia. Pp: 769-810.
- Trepanier, L. (2010). Acute vomiting in cats, rational treatment selection. *Journal of Feline Medicine and Surgery*, 12(3): 225-230.
- Weber, M.P.; Stambouli, F.; Martin, L.J.; Dumon, H.J.; Biourge, V.C. and Nguyen, P.G. (2002). Influence of age and body size on gastrointestinal transit time of radiopaque markers in healthy dogs. *American Journal of Veterinary Research*. 63(5): 677-682.
- Zhang, J.S.; Zhang, J.L.; Wang, C.Y. and Chen, J.Y. (2011). Intramuscular injection of metoclopramide decreases the gastric transit time and does not increase the complete examination rate of capsule endoscopy: a prospective randomized controlled trial. *Hepato-gastroenterology*. 58(110-111): 1618-1620.