

7. Summary

Recovery and quality of life after laparoscopic ovariectomy compared with traditional ovariectomy in dogs

The purpose of this study was to investigate the recovery period and quality of life after application of laparoscopic techniques for neutering of the bitch compared to the traditional surgical approach. Comparative studies in humans have demonstrated that minimally invasive surgery often leads to a shorter recovery time and less impairment of quality of life. It was the hypothesis that this is also true for dogs. First, an overview of the literature is given about the most frequent endoscopic procedures in humans and applications of endoscopy in different animals species. Then, indications, complications and side-effects in laparoscopic and traditional neutering are listed. The following chapter deals with problems and solutions concerning assessment of pain and well-being in animals.

The surgical technique chosen for comparison was ovariectomy in healthy dogs. Ovariectomies were performed by experienced surgeons in two different private small animal hospitals. All dogs in this study belonged to normal clients asking for the routine procedure. Except for the surgical approach and the type of hemorrhage control the protocol for anaesthesia and preoperative analgesia as well as preparation of the surgical field and disinfection were standardized. In each group the data of twenty dogs were evaluated. The main interest focussed on the judgement of the dog owners of the postoperative reconvalescence. For that purpose a questionnaire was developed, which had to be answered by the owner before and several times after surgery. These questions referred to the normal behaviour of the dogs such as food intake, temper, play, social behaviour, activity and movement. For evaluation of the immediate postoperative period an extra questionnaire had to be answered. These questions were selected for evidence and degree of postoperative pain. Questions dealt with the occurrence of vomiting, walking without assistance, food- and waterintake, defecation, stretching, ability to sleep, response to palpation and interest in the wound. The wounds were controlled three and ten days after surgery. Other criteria such as anaesthesia time, surgical time, complications and length of incisions were also evaluated.

Mean anaesthesia time (75,5 minutes, range 45-90 minutes) and mean surgical time (30 minutes, range 20-40 minutes) were longer in the laparoscopy group. In the laparotomy group mean anaesthesia time was 55,75 minutes (range 30-90 minutes) and mean surgical time was 26 minutes (range 14-52 minutes). However in the laparoscopy group, less vomiting occurred ($p<0,001$), more dogs took up food ($p<0,031$), slept more quietly ($p<0,005$) and had no

problems during defaecation ($p < 0,037$) compared to the laparotomy group. The dogs undergoing laparoscopic ovariectomy also showed less impairment of their normal behaviour in regard to food intake ($p < 0,01$), playing ($p < 0,003$), social behaviour ($p < 0,005$), activity ($p < 0,038$) and movement ($p < 0,022$).

These results suggest that laparoscopic ovariectomy performed by experienced surgeons decreases the interference with quality of life after surgery compared to the traditional technique. Further studies with a larger number of patients should be performed in order to confirm these results.