SUMMARY

The aim of this study was the direct measurement of the electrical and mechanical activities of the small bowel and the pouch after colectomy and ileal-pouch-anal anastomosis in the experimental dog.

A historical review of the development of colectomy and ileal-pouch-anal anastomosis (IPAA) is presented.

The anatomy of the bowel in dogs is described. Preparation of the animals, anaesthesia, operating technique of the colectomy and IPAA as well as the perioperative care are described in detail. The importance of the preoperative conditioning of the animals and the advantage of the own-breed animals are especially outlined.

12 dogs underwent colectomy and IPAA. Colectomy and IPAA was possible in all dogs. After surgery, the dogs were nourished parenterally for at least one week. The condition of the animals was closely surveyed by clinical and laboratory means.

All dogs survived. After postoperative adaptation and healing, all laboratory parameters came back to normal. Postoperatively the dogs lost about 15 % of their body weight, but started to gain weight again five weeks later. The intestinal transit time significantly decreased (1486 ± 80 min. preoperatively vs. 545 ± 46 min. postoperatively) and the frequency of defecation increased (2 ± 1 preoperatively vs. 14 ± 0,5 postoperatively). A reservoir function of the pouch was observed. Because of the low number of complications and results comparative to humans, questions concerning gut and pouch motility after colectomy and IPAA can be answered by the presented dog model.

But it has to be taken under consideration that this study is time consuming and requires well trained personal.