

Transvaginal Endoscopic Cholecystectomy with a Single Laparoscopic Port in a Dogs: Hybrid NOTES

Beom-Jun Shin, Jae-Yeon Lee, Sa-Kyeng Shin, Soo-Hyun Kim, Ji-Yeon Kim¹, Young-Ill Kim¹,
Jong-Hyun Park¹, Moo-Hyung Jun, Sung-Whan Cho, Seong-Jun Park, Myung-Cheol Kim,
Seong-Mok Jeong*

Department of Veterinary Surgery, College of Veterinary Medicine,

¹Department of Surgery, College of Medicine

Chungnam National University, Daejeon 305-764, Korea

Purpose: Transvaginal endoscopic cholecystectomy (TVC) was performed in conjunction with one laparoscopic port in four Beagle dogs to evaluate the feasibility and safety of natural orifice transluminal endoscopic surgery (NOTES).

Materials and Methods: Four female Beagle dogs underwent transvaginal endoscopic cholecystectomy. An abdominal opening was made by a 5mm trocar, followed by making pneumoperitoneum of a 4 mmHg with CO₂ insufflator. A single-working channel endoscope was advanced to the peritoneal cavity through vaginal incision in right-ventral region, just caudal to the cervix. With the simple traction by the laparoscopic grasping forcep, good visualization of surgical field was obtained. Cystic duct and artery were ligated with endoclips; for complete gall bladder dissection from liver, L-kinfe was used. After taking out the gall bladder through the vagina, the incision was not closed.

Results: In all four dogs, gall bladders were successfully resected and no postoperative complications (i.e. pain or inflammation) were observed. There were no bleeding and bile leakage during the procedure. In all dogs, blood exam showed increased WBC levels, which reduced to normal level within a few days. RBC levels were decreased in POD 1, but recovered to normal range soon, which represent surgical hemorrhage and inflammation were minimal. In microbiological examination, aerobic and anaerobic bacteria were not cultured in all dogs.

Conclusion: Results from this study indicate safety and feasibility in that no clinically relevant postoperative abdominal infection was occurred.

Key words: cholecystectomy, transvaginal, NOTES, dog

*Corresponding author: jsmok@cnu.ac.kr