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Diagnostic and therapeutic laparoscopy veterinary patients

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Laparoscopy is an endoscopic procedure for the visual examination of the abdominal cavity and its contents for the diagnosis or treatment (or both) of a number of different diseases and conditions. Laparoscopy is a surgical procedure in which a small incision is made, usually in the abdomen, through which laparoscope is inserted. The laparoscope has a small camera on the eyepiece. This allows the surgeon to examine the abdominal and pelvic organs on a video monitor connected to the laparoscope. Other small incisions can be made to insert instruments to perform procedures. The advantage of laparoscopy is that only a small incision (minimally invasive technique) is required; this is why laparoscopy is also known as 'keyhole surgery'. Direct laparoscopic visualization of intra-abdominal pathologies has advantages over the logical assumption of the same by radiography and ultrasonography. Laparoscopy has been a beneficial diagnostic apparatus in human medicine for many years and is now being increasingly popularizing in veterinary patients. Diagnostic laparoscopy is a procedure that allows looking directly at the contents of a patient's abdomen or pelvis, including the fallopian tubes, ovaries, uterus, small bowel, large bowel, appendix, liver, and gallbladder. Diagnostic laparoscopy is indicated in any situation when inspection of the abdomen will help establish a diagnosis and to define subsequent treatment.

Minimally invasive surgery is a collective term for surgical techniques designed to minimize the extent of an anatomic approach while maintaining precision and efficiency. This type of surgery was made possible through an extensive collaboration between physicians and industry in developing the tools and technology that enabled the procedures to be performed safely. Most of the minimally invasive procedures are technically feasible in veterinary medicine and may be accepted as standard procedure in future. The benefits of minimally invasive approaches are well documented in human surgery. However, many of the techniques have not been applied in clinical settings and dramatic patient benefits seen in human surgery have not been validated in animals. Prior to the advent of laparoscopy veterinary surgeons had to make large openings and cut through layers of tissues in order to examine internal organs also known as diagnostic laparotomy. Laparoscopy greatly reduces the patients' recovery time.

In the present study the laparoscopy has been used for diagnosis of different disease conditions. Different sterilization techniques were standardized in male as well as female dogs. Seventy seven clinical cases involving abdominal cavity were subjected to laparoscopic examination, after routine clinical and biochemical examination. The intraperitoneal pathologies diagnosed by laparoscopic examination includes intestinal torsion, intestinal intususception, intestinal adhesions, intestinal impaction, mummified fetus, polycystic ovary, persistent corpus leuteum, splenomegaly, splenic abscess, hepatitis, cirrhosis, hepatomegaly, liposarcoma of liver and bridging fibrosis of liver. Biopsy of the diseased organs was taken using biopsy forceps wherever, necessary followed by electro coagulation. The biopsy specimens were subjected to histopathological examination for confirmatory diagnosis. Three different sterilization techniques viz. bilateral oophrectomy, ovariohysterectomy by electrocautery were performed in forty five female dogs. In male dogs two sterilization techniques viz. vasectomy and vasectomy along with occlusion of testicular vessels by electrocautery and endoclipping were also performed in twenty male dogs. The laparoscopic techniques were found useful in diagnostic and therapeutic purposes.

Biography

Naveen Kumar received his MVSc and PhD degree in Veterinary Surgery and Radiology. He holds the position of Principal Scientist at Indian Veterinary Research Institute, Izatnagar. He has published more than 250 articles published in different peer reviewed international and national journals. He has been editor of two text books, published 3 manuals and has written more than 25 chapters for different textbooks and manuals. He has acted as a major guide for more than 10 students (Master and doctorate level) and also as a co-guide for more than 25 students. He has got one patent filed for synthesizing biomaterials for regenerative medicine and is a Fellow of National Academy of Veterinary Sciences.

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