

Scientific Presentation Abstracts

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The Use of a Minimally Invasive Integrated Endoscopic System to Perform Hemilaminectomies in Chondrodystrophic Dogs with Thoracolumbar Intervertebral Disc Extrusions.

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Objectives: To report the use of an integrated endoscopic system to perform minimally invasive hemilaminectomies and compare the soft tissue trauma and postoperative recovery to standard approaches.

Methods: Prospective, randomized short case series of 8 client-owned chondrodystrophic small-breed (<15 kgs) dogs with acute paraplegia caused by single IVD extrusions. Animals are randomly assigned to undergo an MIS (group 1) or standard approach (group 2) to a hemilaminectomy. Post-operative parameters are compared to preoperative, including neurologic grade, pain scores, and CK, anesthesia and surgery duration, incision length, and complications. A blinded radiologist will report the site, laterality, laminectomy size, and degree of spinal cord compression and muscle injury on pre-and postoperative MRI.

Results: Four dogs met the inclusion criteria. No neurologic deterioration, nor surgical or anesthetic complication were observed. While incision length was shorter in group 1, the surgical exposure, CK, and pain scores were comparable between groups. Group 2 had shorter durations of surgery and anesthesia. Results related to MRI will be completed after all dogs complete the study.

Conclusions: The use of an integrated endoscopic system to approach to thoracolumbar spine of small-breed dogs is feasible. The surgical exposure allowed completion of hemilaminectomies and adequate spinal cord decompression. Longer anesthesia and surgery times of the MIS approach may reflect the procedure's learning curve.

Standing Laparoscopy for Removal of an Ovarian Teratoma in a Filly

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Objective: To describe a standing laparoscopic removal of an ovarian teratoma (OT) in a thoroughbred filly.

Methods: This is a case report of a 2-year-old, 500 kg, thoroughbred filly with a history of inability to train without behavioral alterations, and increased right ovary at rectal palpation

Results: Transrectal ultrasonography showed a 14-cm round structure presenting a cavity with hypoechoic content and hyperechoic areas. Blood samples were collected to determine Anti-

Müllerian hormone, testosterone, progesterone and inhibin-B levels. Food was withheld for 36 hours before standing laparoscopy. Three portal sites were created in the right paralumbar fossa and active capnoperitoneum was maintained during surgery. The mesovarium was desensitized with 40 mL 2% lidocaine and dissected through a bipolar vessel-sealing device (LigaSure Atlas™). The dissected ovary was pulled toward the abdominal wall, to allow active drainage of 1.4 L of serosanguinous fluid. This significantly reduced the size of the ovary facilitating its removal. Histology revealed cystic structures delimited by squamous epithelium, hair follicles, ganglia, ependyma and nerve fibers in the ovarian parenchyma.

Laparoscopy and hospitalization were uneventful. Endocrine panel excluded both a thecoma and a granulosa cell tumor, while histology diagnosed OT.

At 3-month phone follow-up a complete and satisfying return to training was referred.

Conclusions: Ultrasound examination combined with the endocrine panel were fundamental to guide the diagnosis. Standing laparoscopic ovariectomy guaranteed a prompt return to training in this filly. The LigaSure device allowed a fast and safe resection of the mesovarium.

Prospective Evaluation of Lymphatic Embolization in Dogs with Idiopathic Chylothorax

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Objective: To describe the embolization technique and clinical outcome in dogs undergoing lymphatic embolization (LE) as part of the treatment for idiopathic chylothorax (IC). Additionally, to document flow of radio-contrast in relation to the embolus and to document evidence of lymphatic neovascularization or collateralization on post-operative computed tomography lymphangiography (CTLa).

Methods: Prospective clinical case series of 7 client-owned dogs with a presumptive diagnosis of IC that underwent LE as an ancillary treatment for IC. Dogs underwent CTLa followed by thoracic duct ligation (TDL), Pericardectomy (PC) and LE. A mixture of 3:1 lipiodol: n-butyl cyanoacrylate embolic solution was injected through a catheterized mesenteric lymphatic vessel via mini-abdominal approach until embolic reached the CC visualized via intraoperative fluoroscopy. Dogs were recovered and discharged according to standard of care. Recheck CTLa was scheduled for 12 weeks postoperative. Long term follow-up was obtained via phone conversation.

Results: LE was successful in 6 dogs. In one dog, an efferent lymphatic was not identified and embolization was attempted via lymph node injection which led to incomplete embolization. One dog was diagnosed with lymphosarcoma following surgery and was euthanized prior to follow up CTLa. Six dogs experienced resolution of pleural effusion and four were re-evaluated via CTLa at 12 weeks. Resolution of pleural effusion and presence of a lymphatic embolus preventing antegrade continuation of the radio-contrast was documented in five dogs. Six dogs are alive and clinically normal 100-425 days after surgery.

Conclusions: LE is a feasible ancillary treatment in dogs with IC. The addition of LE may reduce the risk of surgical failure by a) reducing efferent lymphatic chyle flow, b) occluding potentially missed TD branches and c) preventing the development of collateral TD branches.

Preliminary Results of an Innovative Two Port Thoracoscopic Pericardiectomy Technique in Dogs.

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Objective: To describe the technique of a two-port thoracoscopic pericardiectomy with percutaneous suspension.

Methods: Seven client-owned dogs were submitted to a two-port thoracoscopic pericardiectomy. Cases with active bleeding from masses or heart were excluded. Patients were positioned in supine recumbency, two portals were placed in the 7th right intercostal space and the right paraxiphoid space. The scope was inserted through the intercostal portal leaving the caudal port for instruments. Sutures were inserted percutaneously in the 5th intercostal space, using a needle driver a long pericardic stitch was made in all cases. The needle was extracted through the caudal portal, the needle was replaced with a capitone stopper. The transthoracic end of the suture was pulled so that the capitone elevate the pericardium to make a 4 by 4 cm window at least, using laparoscopic scissors. Time of surgery, time to pericardial elevation, estimative bleeding, number of instrument conflicts per surgery, and intra-and extra surgical complications were recorded.

Results: The average surgical time was 57.9 min (SD 10.9); Mean time to the elevation of the pericardium was 17.5 min (SD 6.23); Estimative bleeding was 0.5 mL / Kg; 2 instruments hits were recorded in one surgery, and no major complications were detected.

Conclusion: Thoracoscopic pericardiectomy is an efficient and safe technique. Usually, thoracic space is limited, and fewer instruments impact the instrument conflict. Time of surgery is slightly less than some published data but, a controlled study is necessary to draw general conclusions. Our data suggest that this procedure is easy to learn and it is related to similar outcomes. Thoracoscopic creation of a pericardial window with one instrument and assisted by a percutaneous pexy is a feasible and safe option and is eligible for further investigation.

Coelioscopic-assisted Cystotomy for Egg Retrieval in a Malaysian Painted River Terrapin utilizing a SILS™ Port and Fluoroscopic Guidance.

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Objective: To report the use of a single incision laparoscopic surgery (SILS™) Port in the prefemoral fossa of a chelonian, along with coelioscopy, fluoroscopy, and coelioscopic-assisted cystotomy to retrieve an ectopic egg.

Methods: Case report on a 20-year-old, zoo-owned Malaysian painted river terrapin. The terrapin was operated to remove an ectopic egg that had been retained for over 2 years after two previous unsuccessful open surgical attempts to retrieve it. Hasson approach was used to introduce a SILS™ Port in the left prefemoral fossa. After 3-5mmHg insufflation was applied, a 5mm 30deg oblique telescope was used to explore the coelom. Fluoroscopy and a blunt-ended probe were utilized to locate the intra-coelomic egg, which was discovered within the urinary bladder lumen. The bladder was then pulled to the prefemoral fossa with concurrent removal of

the SILS™ Port, temporary cystopexy was performed, and the telescope was re-introduced into the urinary bladder to locate the egg. Retrieval via coelioscopic-assisted cystotomy was successful.

Results: The SILS™ Port allowed multiple instruments to be used and exchanged seamlessly throughout the coelioscopic exploratory through a single incision. The terrapin recovered smoothly from anesthesia, was urinating normally within a day, and returned to normal aquatic activity with weeks of surgery.

Conclusion: Use of the SILS™ Port may be considered as an alternative for minimally invasive surgery in chelonians.

Laparoscopic Hepatic Lobectomy Using the Pringle Maneuver in a Dog.

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Objective: To describe the procedure and feasibility of laparoscopic hepatic lobectomy using the Pringle maneuver in a dog with hepatocellular carcinoma (HCC).

Methods: An 11-year-old, intact female Pomeranian, weighing 10.7 kg, had a solitary hepatic mass (approximately 5-cm in diameter) in the right medial lobe near the hilus. The patient was placed in dorsal recumbency under the general anesthesia. A camera portal was made on the right side of the umbilicus, and 4 instrument portals were placed bilaterally mid-abdomen, in the right paracostal region, and near the xiphoid. The excision site was determined using the laparoscopic ultrasound guidance. After the laparoscopic cholecystectomy, the Pringle maneuver was performed, and the affected hepatic parenchyma was clamp-crushed and dissected using the Thunderbeat and Maryland forceps. The Glisson's sheath and hepatic vein were resected with clipping.

Results: Total occlusion time of hepatic inflow with the Pringle maneuver was 7 min 36 sec. A decrease in heart rate, and arterial blood pressure as well as a change in hepatic parenchymal color were observed after the occlusion; however, these changes rapidly disappeared after the release of the Pringle maneuver. The laparoscopic hepatic lobectomy was completed with a small amount of hemorrhage. Total operation time was 215 min. The histopathological diagnosis was made as HCC.

Conclusion: Laparoscopic hepatic lobectomy using the Pringle maneuver is feasible in a dog with HCC in the right medial lobe with a small amount of intraoperative hemorrhage.

Evaluation of a Laparoscopic Abdominal Simulator Assessment to Test Readiness for Laparoscopic Ovariectomy of Live Dogs

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Objectives: To predict readiness for laparoscopic ovariectomy of live dogs on the basis of performance on a high-fidelity laparoscopic abdominal simulator and to determine interrater reliability of the assessment.

Methods: This experimental study involved 17 fourth-year veterinary students. After a standardized laparoscopic training course, each participant performed a laparoscopic ovariectomy on a simulator. This performance was scored in real time by two evaluators using a rubric. Participants achieving a score of 112/160 performed a laparoscopic ovariectomy on a live dog supervised by an instructor in the room. Two evaluators scored video recordings of each procedure using the rubric. Participants' opinions about the simulator were collected with a survey.

Results: All participants scored above the threshold (range: 126-151) and successfully completed laparoscopic ovariectomy on a live dog, with an average 10/17 participants requiring verbal guidance and 5/17 requiring intervention from the instructor. Interrater concordance was excellent for the rubrics used to score performance on the simulator ($R = 0.91$) and in vivo ($R = 0.81$). All participants agreed that the simulator should be used to assess trainee readiness prior to surgery on a live dog.

Conclusion: Participants achieving a score of at least 126/160 on the simulator were able to perform a laparoscopic ovariectomy on a live dog under supervision. The scoring system for the simulator had excellent interrater concordance. This simulator and scoring system can be used in laparoscopic training programs to assess readiness for progression to the operative setting.

Outcomes and Complications in a Case Series of 39 Total Laparoscopic Prophylactic Gastropexies Using a Modified Technique.

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Objective: The objective of this study was to describe the use of a modified minimally invasive technique to perform prophylactic gastropexy in dogs.

Methods: A multi-center, prospective case series study of 39 client-owned dogs was undertaken from June 2019 to August 2020. Each dog underwent total laparoscopic prophylactic gastropexy using a simple continuous barbed suture line and two laparoscopic needle holders without incising the seromuscular layer of the stomach and the abdominal wall. Surgical time, the number of stitches, and the length of suture were recorded. Telephone checks, owner questionnaires, and ultrasonographic exams were used to evaluate the effectiveness of the procedure after surgery.

Results: The median gastropexy surgical time was 12 min (range 4–30 min), and the median length of the suture line was 3 cm (range 2–4 cm). The last follow-up check was carried out 9 months (mean, range 3–14 months) after surgery, and all ultrasonographic exams ($n = 29$) showed an intact gastropexy. Intraoperative and postoperative complications were noted.

Conclusions: This total laparoscopic gastropexy technique was found to be safe, fast, simple, and with a low morbidity rate. It appears to be a new alternative to other methods of prophylactic gastropexy; however, further research in this area is warranted.

Laparoscopic Reversible Neutering in a Dog.

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Objective: The objective of this study was to describe the use of a minimally invasive technique to perform reversible sterilization in dogs.

Methods: A case report of one client-owner dog. The dog, a one-year-old 45 kg male Maremmano-Abruzzese dog, underwent surgery in February 2020. A three-port technique was used. Through the first port a 5 mm 0° telescope was inserted, the second babcock forceps and through the third port a 5 mm endoclip applicator. With endoclips the vas deferens was isolated and ligated bilaterally. A follow-up was carried out one month later and the spermatozoa were no longer present in the ejaculate. Next month we will remove the clips in laparoscopy to make the dog fertile again. Previous patients have had this procedure performed and reversed in open surgery with successful results.

Results: At the moment the dog mates without reproducing, lives with two females of the same breed and enjoys excellent health.

Conclusions: The reversible neutering by laparoscopy is a feasible method that allows the dog to become fertile again after removing the clips. In the future, other cases will have to be carried out to validate this method.

Laparoscopic Radical Nephrectomy for Treatment of Unilateral Hydronephrosis and Kidney Stones in a Cat.

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Objective: To perform successful treatment of hydronephrosis of the right kidney, caused by stones in the renal pelvis, using a laparoscopic approach for nephrectomy.

Methods: A female, 10-year-old Persian cat, BM 1.8 kg, with signs of intoxication, low body temperature, which does not eat and vomits for the last 5 days. Ultrasound examination and X ray diagnosed hydronephrosis, dilatation of the renal calyx with atrophy of the renal parenchyma as well as a number of different sized stones in the right kidney. The cat was hospitalized and after the improvement of the general health condition, a total laparoscopic nephrectomy of the right kidney was performed. Using the technique of 4 ports in the right lateral abdominal area, the right kidney was laparoscopically located, visualization of the renal vein and artery was performed, they were double-ligated using hem-o-lok. The ureter was ligated and resected by the same technique. The kidney was removed from the abdomen with the help of an extraction bag.

Results: The patient recovered and was discharged on the second day of the surgery. One larger stone and 9 smaller stones localized in the renal pelvis were found in the kidney.

Conclusion: Regardless of health condition, regular control and complete patient examinations are necessary so that we can prevent the occurrence of uroliths and severe urinary diseases in time.

Clinical Outcomes of Intraoperative Cholangiography and Bile Duct Flushing Techniques Performed During Laparoscopy in Forty-Seven Dogs: A Retrospective Study.

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Objectives: The study objectives were to describe techniques of intraoperative cholangiography (IOC) and bile duct flushing (BDF) during laparoscopic cholecystectomy (LC) in dogs with gallbladder mucocele (GM) or cholecystitis, and to investigate clinical outcomes of these techniques.

Methods: Forty-seven client-owned dogs were retrospectively reviewed. The fundus dissection first (FDF) method was used for the LCs. After dissection within the subserosal layer of the gallbladder was performed from the gallbladder fundus to the cystic duct, a catheter was inserted from the cystic duct for BDF and IOC. Medical records of client-owned dogs with benign gallbladder diseases that underwent IOC and BDF during LC between September 2016 and December 2019 were reviewed. Among these dogs, only dogs with GM or cholecystitis were included into the study. Videos recorded during each procedure were reviewed and data on procedure time, completion rate, success rate, and technical approach were recorded.

Results: Forty-seven dogs were included in the study. Both BDF and IOC were completed in all dogs. The median procedure time for BDF and IOC was 4 (range, 2-48) min.

Conclusion: During LC, BDF and IOC can be performed safely with a good success rate. Intraoperative cholangiography could be used to diagnose obstructions and strictures in the common bile duct that may not be detected using BDF alone.

Clinical Significance: The routine use of laparoscopic BDF and IOC may contribute broader indication for LC use in dogs with severe or complicated gallbladder disease, including extrahepatic biliary tract obstruction.

The Clinical Efficacy of a Modified Technique for Transpharyngeal Endoscopic Auditory Tube Diverticulotomy in Horses.

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Objective: To report the outcome following use of transpharyngeal endoscopic laser diverticulotomy for guttural pouch infection unresponsive to medical therapy.

Methods: Thirteen client owned horses that presented from June 2017 to June 2020.

Transpharyngeal endoscopic diverticulotomy was performed with a diode laser during standing sedation. Horses underwent pouch lavage with isotonic saline via the diverticulotomy and standard postoperative management. Follow up was collected from the electronic medical record and phone interview with owners.

Results: Median age of treated horses was 9 years (range 1 to 22 years), and median follow up 74 weeks (range 9 to 123 weeks). The most common presenting complaint was nasal discharge with a median duration of 28 weeks (range 2 to 144 weeks). Ten horses were treated with systemic or local medical therapy prior to diverticulotomy, consisting of systemic antibiotics (8), non-steroidal anti-inflammatory drugs (9), and medication infusion within the affected guttural pouch (2). Three horses were noted to cough when eating following surgery within the first few

days postoperative. Twelve of 13 horses had full resolution of nasal discharge at follow up. All owners were satisfied with the outcome.

Conclusions: Transpharyngeal endoscopic auditory tube diverticulotomy with a laser was easy to perform with standing sedation, was well tolerated, led to full resolution in clinical signs and/or guttural pouch infection in all horses, and required no postoperative surgical site management.

Comparison of Conventional and Laparoscopic Installation of Subcutaneous Ureteral Bypass.

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Objective: Compare surgical outcomes in cats undergoing laparoscopic and conventional subcutaneous ureteral bypass (SUB) installation.

Methods: Retrospective study with 16 client owned cats. Two series (laparoscopy and celiotomy) of cats submitted for SUB installation were compared. Celiotomy approach was performed as its described in literature. Lateral recumbency was used in the laparoscopic approach. Three (5 mm) ports were placed in inverted triangle fashion in the middle abdomen. Caudal pole of the kidney was exposed from its capsule, the caudal port was extracted and a 13cm x 13G needle was inserted. Pneumoperitoneum was conserved by tying pre-passed sutures. Laparoscopy and contrast-fluoroscopy assisted nephrocentesis was perform, guidewire was inserted and advanced through the needle into the kidney, SUB catheter was put in its place and the retention disc was fixed with tissue glue applied percutaneously. Same procedure was performed in the semi-plethoric bladder through cranial incision. After extraction of the remaining port and pneumoperitoneum, SUB catheters were tunneled and connected to the subcutaneous Companion Port™ placed in the camera port incision. We compared pre and postsurgical BUN, Creatinine, and Phosphorus; surgical time; hospitalization time and complications.

Results: Presurgical groups were statistically similar. Celiotomy approach was faster (85±13min vs 50±12min p<0,001) and hospitalization was shorter in Laparoscopic group (p<0,002). No others significant differences were detected.

Conclusion: Laparoscopic approach for SUB installation its feasible but don't have a major statistical benefit compared to celiotomy. More extended studies are needed to draw general recommendations.

Laparoscopic Closure of Congenital Hepatoportal Arteriovenous Fistula in a Dog.

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Objective: To report the surgical therapeutic strategy and outcome in a case of congenital hepatoportal arteriovenous fistula (HPAVF) in a dog.

Methods: Case report in a 5-month-old, client-owned dog with congenital hepatoportal arteriovenous fistula. Patient was referred from another institution with an history of ascites, hypoalbuminemia, diarrhea, intestinal hypertension and microhepatica. Several abdominal

percutaneous drainages were necessary to relieve respiratory distress. Abdominal computer tomography (CT) and doppler ultrasonography (DUS) shows two tortuous HPAVF surrounding the gallbladder. After one month of clinical treatment, the patient was submitted for a laparoscopic closure of the vascular defect. Portal placement was the same as described for laparoscopic cholecystectomy plus one needlescopic forceps in the cranial midline. Vascular defects were closed using a vascular sealer device, cholecystectomy was needed to allow exhaustive inspection of the fistulas.

Results: Surgical time was 90 min. Patient required albumin transfusion postoperatively, digestive signs were improved during the hospitalization. Abdominal effusion was controlled after 10 days after surgery. Abdominal drainage was no longer needed and DUS demonstrate improvement of portal pressure.

Conclusions: A full laparoscopic approach can be suitable and safe for the treatment of congenital HPAVF in dogs.

Comparison of Thoracoscopic Treatment of Persistent Right Aortic Arch in Dogs With and Without One Lung Ventilation.

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Objective: To evaluate thoracoscopic treatment of persistent right aortic arch (PRAA) in dogs with and without the use of one lung ventilation (OLV).

Methods: Retrospective cohort study on client-owned dogs. Medical records were reviewed retrospectively. Intraoperative and immediate postoperative data were compared between dogs that underwent thoracoscopic treatment of PRAA with (OLV+) and without (OLV-) OLV.

Results: Twenty-two dogs underwent thoracoscopic treatment of PRAA. Ten of the 12 dogs in the OLV+ group and 7/10 dogs in the OLV- group had their left ligamentum arteriosum successfully ligated during thoracoscopy. Median surgical time, intraoperative complications, and conversion rates were similar between the two groups. In the OLV+ group, OLV was not suspended due to elevated end-tidal carbon dioxide (EtCO₂) or partial pressure of arterial carbon dioxide (PaCO₂), or low arterial oxygen saturation (SaO₂).

Conclusion: Thoracoscopic treatment of PRAA can be performed with or without OLV. Surgical time, intraoperative complications and conversion rates were similar between dogs that underwent thoracoscopic treatment of PRAA with and without OLV. The use of OLV did not appear to provide significant benefits in this case series. However, OLV during thoracoscopic treatment of PRAA appears safe and therefore its use should be considered based on surgeon preference.

Description and Evaluation of a Novel Transoral Endoscopic Arytenopexy in Canine Cadavers.

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Objective: To describe the trans-oral endoscopic arytenopexy (TEA) and evaluate its effects on

the rima glottis area (RGA) and laryngeal epiglottic-glottic seal (LEGS). We hypothesize the TEA will be a feasible surgical technique and the TEA will provide an increase in RGA with minimal change to the LEGS.

Methods: Endoscopic photos of the larynx were taken an open epiglottis for baseline RGA measurement, and a closed epiglottis for baseline measurement of exposed RGA and LEGS in 15 medium- to large-breed canine cadavers. The TEA was performed by suturing the lateral aspect of the arytenoid soft tissues to adjacent pharyngeal wall. Endoscopic photos to measure changes in RGA and LEGS were taken in the same manner. A computerized planimetric analysis program was used to calculate baseline RGA and LEGS. The RGA was reported in % change from baseline. The LEGS was reported as intact or altered. A t-test was used to compare baseline to post-TEA RGA.

Results: The RGA increased significantly following TEA, and the LEGS remained intact in all cadavers.

Conclusions: The TEA was technically feasible and resulted in a significant increase in RGA while maintaining the LEGS. The TEA could result in a clinically significant reduction in airway resistance and prevent inward deviation of the arytenoid cartilage during inspiration, which could translate to improved respiratory function without an increased risk of aspiration pneumonia in clinical patients.

Small Animal Minimal Invasive Techniques In Iran: First Experience & Review Of Complications.

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Objective: The purpose of this study was to assess the feasibility, safety and complications of minimally invasive techniques for the first time in Iran veterinary practice.

Methods: From 27 August 2019 through 25 December 2020, 255 endoscopic and laparoscopic diagnostic and curative procedures were performed. A hundred eighty-one dogs and 70 cats underwent various MIS procedures. Karl-Storz veterinary laparoscopy tower, flexible endoscope, accessories and vessel-sealer device were provided by private investment of Hamidreza Fattahain pet hospital. A hundred eighteen dogs and 58 cats underwent elective laparoscopic ovariectomy, thirty endoscopies foreign body removal, 9 exploratory laparoscopies and 36 diagnostic endoscopies were performed and biopsy was taken in 6 patients.

Results: During lap-OVE intraoperative complications like ovarian and uterine hemorrhage, remnant ovary, organ injuries and portal site complications, subcutaneous emphysema, materials dysfunction, scope of sterilized animals because of unknown history, respiratory effect and peritonitis were encountered.

Conclusion: Despite a few preliminary reports about MIS in some developing countries no aggregate data exists regarding the role of this concept in such a low-income and trade banned country as Iran. Diagnostic laparoscopy, ovariectomy and endoscopic procedures could reduce unnecessary laparotomies, patient morbidity, pain, infection rate and increased owner satisfaction. Advanced training and frequency of practice are the most important factors for MIS

team to update and improve themselves and develop the endo-surgery paradigm in traditional veterinary market.

Biomechanical Comparison of Two Barbed Sutures in Canine Gastropexy: A Veterinary Endoscopy Society Study.

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Objectives: To compare load to failure and handling properties of a welded loop self-anchoring polyglyconate barbed suture (2-0 V-Loc™ 180; Covidien) to barbed triclosan coated polydioxanone with a unique fixation tag that anchors the first pass into the tissue (2-0 Stratafix™ Symmetric PDS™ Plus Knotless Tissue Control Device; Ethicon) in canine incisional gastropexy.

Methods: 20 medium to large breed canine cadavers will be divided into two groups based on suture type. Incisional gastropexy using 2 strands of the assigned suture will be performed in all cadavers. Surgical time, handling properties and Load to failure were assessed.

Results: No difference in mean gastropexy load to failure was identified between V-Loc 104N and Stratafix Symmetric 116N. All samples failed through tissue tearing. Mean surgery time and handling properties found no difference between suture type.

Conclusions: The biomechanical properties, surgical times and handling characteristics of V-Loc and Stratafix Symmetric are comparable when used in open canine gastropexy. The use of either suture maybe appropriate for canine laparoscopic incisional gastropexy.

A Comparison of Outcomes between Laparoscopic and Open Adrenalectomies in Dogs.

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Objective: To compare short- and long-term outcomes of dogs with adrenal tumors treated by adrenalectomy with laparoscopy or laparotomy

Methods: Retrospective study of dogs undergoing adrenalectomy with laparoscopy or laparotomy. Fourteen dogs treated with laparoscopic adrenalectomy (LA) and twenty-six dogs treated with open midline adrenalectomy (OA). Dogs treated with LA were matched with 1-2 cases treated with OA based on histological nature, size and side of the tumor. Intra-operative and post-operative complications were compared between LA and OA. Long-term survival was compared between LA and OA.

Results: Intra-operative hypotension occurred in 2/14 (14.3%) of dogs in the LA group and 16/26 (61.5%) of dogs in the OA group ($p = 0.007$). The surgical time was 69.8 ± 21.8 mins for the LA group and 108.6 ± 42.0 mins for the OA group ($p = 0.0003$). The hospitalization time was 39.3 ± 14.9 hrs for the LA group and 46.3 ± 25.1 hrs for the OA group ($p=0.1453$). The one- and two-year survival rates were 77% and 77% for the LA group, and 77% and 66% for the OA group, respectively ($p=0.6144$).

Conclusion: Laparoscopic adrenalectomy was associated with a shorter surgical time and a reduced incidence of hypotension when compared to open adrenalectomy in this case-matched

study. Short- and long-term outcomes were not affected by the surgical technique used to complete the adrenalectomy. Laparoscopy can be recommended for adrenalectomy in dogs; however, appropriate case selection is required.