Diagnostic accuracy of a point-of-care urine bacteriologic culture test in dogs

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Objective—To determine diagnostic accuracy of a compartmented bacteriologic culture and antimicrobial susceptibility testing plate (CCSP) for detection of bacterial urinary tract infection (UTI) in dogs and antimicrobial susceptibility testing of bacterial isolates.

Design—Evaluation study.

Sample—62 frozen, previously characterized bacterial isolates from canine urine cultures and 147 canine urine samples.

Procedures—The study was conducted in 2 phases: preliminary assay validation (phase 1) and diagnostic validation (phase 2). For phase 1, the frozen bacterial isolates were revitalized and tested with the CCSP and with standard aerobic microbiological culture (SAMC). For phase 2, the urine samples were tested with the CCSP and SAMC in parallel.

Results—For phase 1, after 24 hours of culture, 46 of 62 (74%) bacterial isolates had growth on the CCSP and all (100%) had growth in SAMC. For bacterial isolates with growth, the CCSP allowed correct identification of 45 of 46 (98%) isolates. Isolates yielding no growth on the CCSP were gram-positive cocci (Staphylococcus spp [n = 7] and Enterococcus spp [9]). In phase 2, the overall diagnostic accuracy of the CCSP, compared with SAMC, was 94% (sensitivity, 81%; specificity, 99%). The positive predictive value was 98% and negative predictive value was 92%. Susceptibility results for enrofloxacin and trimethoprim-sulfamethoxazole as determined with the CCSP had greatest concordance with those determined by SAMC (71% and 96%, respectively), compared with other antimicrobial susceptibilities.

Conclusions and Clinical Relevance—Use of the CCSP led to accurate exclusion of UTI in dogs without a UTI but was less reliable for diagnosis of UTI, particularly infections caused by gram-positive cocci. Standard aerobic microbiological culture remains the gold standard for detection of UTI in dogs. (J Am Vet Med Assoc 2013;243:1719–1725)
Use of lidocaine-bupivacaine–infused absorbable gelatin hemostatic sponges versus lidocaine-bupivacaine retrobulbar injections for postoperative analgesia following eye enucleation in dogs

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Objective—To compare use of lidocaine-bupivacaine–infused absorbable gelatin hemostatic sponges versus lidocaine-bupivacaine retrobulbar injections for postoperative analgesia in dogs following eye enucleation.

Design—Randomized case-control study.

Animals—19 dogs that underwent enucleation.

Procedures—19 client-owned dogs admitted to a referral hospital for routine eye enucleation were enrolled with owner consent and randomly assigned to receive an orbital absorbable gelatin hemostatic sponge infused with lidocaine and bupivacaine after globe removal (n = 8) or retrobulbar injection of lidocaine and bupivacaine before globe removal (11). Baseline pain scores were recorded on the basis of an ordinal pain scale. Anesthetic premedication consisted of hydromorphone, midazolam, and glycopyrrolate. Propofol was used for anesthetic induction and isoflurane for maintenance. A transpalpebral eye enucleation was performed by a board-certified ophthalmologist. Pain scores and heart rate were again recorded 15 and 30 minutes and 1, 2, 4, 6, 8, and 24 hours after extubation by trained observers masked to treatment groups. Dogs were given hydromorphone as rescue analgesia if the total pain score was _9 of 18 or any categorical pain score was _3 (on a scale from 0 to 3 or 0 to 4).

Results—There were significant differences over time for comfort level, response to touch, behavior, heart rate, and total pain score; however, there was no difference between treatment groups. One dog in the absorbable gelatin hemostatic sponge group required rescue hydromorphone 4 hours after surgery.

Conclusions and Clinical Relevance—The absorbable gelatin hemostatic sponge proved to be as effective in providing local analgesia for eye enucleation in dogs as the retrobulbar injections. (J Am Vet Med Assoc 2014;244:57–62)
Refractometric total protein concentrations in icteric serum from dogs

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Objective—To determine whether high serum bilirubin concentrations interfere with the measurement of serum total protein concentration by refractometry and to assess potential biases among refractometer measurements.

Design—Evaluation study.

Sample—Sera from 2 healthy Greyhounds.

Procedures—Bilirubin was dissolved in 0.1M NaOH, and the resulting solution was mixed with sera from 2 dogs from which food had been withheld to achieve various bilirubin concentrations up to 40 mg/dL. Refractometric total protein concentrations were estimated with 3 clinical refractometers. A biochemical analyzer was used to measure biuret assay–based total protein and bilirubin concentrations with spectrophotometric assays.

Results—No interference with refractometric measurement of total protein concentrations was detected with bilirubin concentrations up to 41.5 mg/dL. Biases in refractometric total protein concentrations were detected and were related to the conversion of refractive index values to total protein concentrations.

Conclusions and Clinical Relevance—Hyperbilirubinemia did not interfere with the refractometric estimation of serum total protein concentration. The agreement among total protein concentrations estimated by 3 refractometers was dependent on the method of conversion of refractive index to total protein concentration and was independent of hyperbilirubinemia. (J Am Vet Med Assoc 2014;244:63–67)
Endovascular evaluation and treatment of intrahepatic portosystemic shunts in dogs: 100 cases (2001–2011)

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Objective—To evaluate short- and long-term outcome following endovascular treatment of intrahepatic portosystemic shunts in dogs.

Design—Retrospective case series.

Animals—100 dogs.

Procedures—All patients had angiographic evaluation with or without endovascular shunt attenuation. The medical records were reviewed for pertinent data, complications, outcome, and survival time.

Results—95 dogs with congenital intrahepatic portosystemic shunts received 111 procedures (83% [79/95] had 1 treatment, and 17% [16/95] had > 1 treatment; 5 dogs had no treatment because of excessive portal venous pressure–central venous pressure gradients). Angiography identified 38 right, 33 left, and 19 central divisional single shunts (n = 90) and 10 complex or multiple shunts. Partial shunt attenuation was performed in 92 dogs by means of caval stent placement and insertion of thrombogenic coils within the shunt, and 3 had complete acute shunt occlusion. Major intraoperative complications (3/111 [3%]) included temporary severe portal hypertension in 2 dogs and gastrointestinal hemorrhage in 1 dog. Major postoperative (< 1 week after surgery) complications (14/111 [13%]) included seizures or hepatoencephalopathy (7/111 [6%]), cardiac arrest (2/111 [2%]), jugular site bleeding (2/111 [2%]), pneumonia (1/111 [1%]), suspected portal hypertension (1/111 [1%]), and acute death (1/111 [1%]). Median follow-up time was 958 days (range, 0 to 3,411 days). Median survival time for treated dogs was 2,204 days (range, 0 to 3,411 days). Outcome was considered excellent (57/86 [66%]) or fair (13/86 [15%]) in 70 of 86 (81%) treated dogs.

Conclusions and Clinical Relevance—Results suggested that endovascular treatment of intrahepatic shunts in dogs may result in lower morbidity and mortality rates, with similar success rates, compared with previously reported outcomes for open surgical procedures. Gastrointestinal ulceration was a common finding among this population of dogs, and lifelong gastroprotectant medications are now recommended. (J Am Vet Med Assoc 2014;244:78–94)
Incidence of acute lung injury in dogs receiving transfusions
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Objective—To document the existence and incidence of acute lung injury (ie, veterinary acute lung injury [VetALI] per the 2007 consensus definition) in a population of client-owned dogs receiving transfusions for various clinical reasons.

Design—Prospective observational study.

Animals—54 client-owned dogs.

Procedures—Arterial blood gas analysis was performed for dogs receiving a transfusion (blood and plasma products) at 0 to 12 hours before and 24 to 48 hours after transfusion; dogs also underwent thoracic radiography 0 to 24 hours before and 24 to 48 hours after transfusion. The ratio of PaO₂ to fraction of inspired oxygen (FIO₂) was calculated. Dogs with posttransfusion radiographic signs of pulmonary infiltrates, a PaO₂:FIO₂ ratio < 300, or clinical signs of respiratory compromise were suspected of having VetALI and underwent echocardiography to exclude left-sided heart failure. The incidence of VetALI was calculated, and χ² tests were used to compare the incidence in study dogs with the historical reported incidence of acute respiratory distress syndrome (ARDS) in ill dogs (not receiving transfusions) and transfusion-related acute lung injury (TRALI) in humans.

Results—The incidence of VetALI (2/54 [3.7%]; 95% confidence interval, 0% to 8.73%) in study dogs was significantly less than the reported incidence of TRALI in humans (25%) and not significantly different from the reported incidence of ARDS in ill dogs (10%).

Conclusions and Clinical Relevance—VetALI occurred in dogs that received transfusions at a frequency similar to that previously reported for ARDS in ill dogs that did not receive transfusions. (J Am Vet Med Assoc 2014;244:170–174)
Histopathologic findings in uterine biopsy samples from subfertile bitches: 399 cases (1990–2005)

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Objective—To determine the prevalence of various lesion types detected by histologic evaluation of uterine biopsy samples collected from subfertile bitches.

Design—Retrospective case series.

Animals—399 sexually intact bitches.

Procedures—Results of histologic evaluation of canine uterine biopsy samples submitted by a single veterinary practice and clinical histories of dogs from which samples were obtained were reviewed. Clinical data including age, reason for biopsy, and histopathologic findings were recorded. The prevalence of specific lesions was determined, categorized by severity and age, and statistically analyzed.

Results—Endometritis (170/399 [42.6%] cases) and cystic endometrial changes, including cystic endometrial hyperplasia (133/399 [33.3%]) were the most prevalent lesions in the study population. Eighty-nine of 170 (52.4%) cases of endometritis were characterized as chronic with predominantly lymphocytic or lymphoplasmacytic inflammatory infiltrates, 51 (30.0%) included mixed inflammatory reactions, and 30 (17.6%) were characterized as having acute inflammation with neutrophils, eosinophils, or both. Fibrosis was common (101/399 [25.3%] cases). Eosinophilic endometritis was significantly associated with a history of fetal loss during the same breeding cycle. No significant difference was found in prevalence of lesions among age groups.

Conclusions and Clinical Relevance—The high prevalence of endometritis in this population of dogs suggested that acute and chronic endometritis may be related to subfertility in bitches. The association of eosinophilic endometrial infiltrates with a history of fetal loss may be an important diagnostic finding in dogs with endometritis. (J Am Vet Med Assoc 2014;244:180–186)
Second intention healing after wide local excision of soft tissue sarcomas in the distal aspects of the limbs in dogs: 31 cases (2005–2012)

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Objective—To determine outcomes for dogs with soft tissue sarcomas in the distal aspects of the limbs that underwent second intention healing after wide excision (2-cm lateral surgical margins and a margin 1 fascial plane deep) of the tumors.

Design—Retrospective case series.

Animals—31 dogs with soft tissue sarcomas in the distal aspects of the limbs that underwent second intention healing following wide local excision of their tumors.

Procedures—Tumors were excised with 2-cm lateral margins and a margin 1 fascial plane deep to tumors. Wounds healed by means of second intention. Time to healing, complications during healing, and information regarding tumor recurrence were recorded.

Results—All tumors were excised with histologically tumor-free margins. Twenty-nine (93.5%) wounds healed completely by second intention (median time, 53 days). Two (6.5%) dogs required free skin graft procedures to facilitate healing. Complications during open wound management developed for 7 (22.6%) dogs. Long-term complications were detected for 8 (25.8%) dogs, including intermittent epidermal disruption (5/31 [16.1%]) and wound contracture (3/31 [9.7%]). All complications were managed conservatively. Local tumor recurrence was detected for 1 (3.2%) dog. Median follow-up time was 980 days (range, 380 to 2,356 days). No patients died because of tumor-related causes.

Conclusions and Clinical Relevance—Results of this study indicated second intention healing of large wounds in the distal aspects of the limbs was complete and typically without complications for dogs that underwent wide excision of soft tissue sarcomas. Wide local excision of soft tissue sarcomas in the distal aspects of the limbs with 2-cm lateral margins and margins 1 fascial plane deep to the tumors provided excellent long-term local tumor control. (J Am Vet Med Assoc 2014;244:187–194)
Multicenter prospective evaluation of dogs with trauma
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Objective—To determine hospital admission variables for dogs with trauma including values determined with scoring systems (animal trauma triage [ATT], modified Glasgow coma scale [MGCS], and acute patient physiologic and laboratory evaluation [APPLE] scores) and the usefulness of such variables for the prediction of outcome (death vs survival to hospital discharge).

Design—Prospective, multicenter, cohort study.

Animals—315 client-owned dogs.

Procedures—By use of a Web-based data capture system, trained personnel prospectively recorded admission ATT, MGCS, and APPLE scores; clinical and laboratory data; and outcome (death vs survival to discharge) for dogs with trauma at 4 veterinary teaching hospitals during an 8-week period.

Results—Cause of injury was most commonly blunt trauma (173/315 [54.9%]) followed by penetrating trauma (107/315 [34.0%]), or was unknown (35/315 [11.1%]). Of the 315 dogs, 285 (90.5%) survived to hospital discharge. When 16 dogs euthanized because of cost were excluded, dogs with blunt trauma were more likely to survive, compared with dogs with penetrating trauma (OR, 8.5). The ATT (OR, 2.0) and MGCS (OR, 0.47) scores and blood lactate concentration (OR, 1.5) at the time of hospital admission were predictive of outcome. Surgical procedures were performed for 157 (49.8%) dogs; surgery was associated with survival to discharge (OR, 7.1).

Conclusions and Clinical Relevance—Results indicated ATT and MGCS scores were useful for prediction of outcome for dogs evaluated because of trauma. Penetrating trauma, low blood lactate concentration, and performance of surgical procedures were predictive of survival to hospital discharge. The methods enabled collection of data for a large number of dogs in a short time. (J Am Vet Med Assoc 2014;244:300–308)
Evaluation of the risk and age of onset of cancer and behavioral disorders in gonadectomized Vizslas

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Objective—To investigate associations between age at gonadectomy and estimated risk or age at diagnosis of neoplastic and behavioral disorders in Vizslas.

Design—Retrospective cohort study.


Procedures—Data on demographics, gonadectomy status, and age at diagnosis of disease or disorder were obtained with an anonymous online survey and analyzed.

Results—Dogs gonadectomized at _6_ months, between 7 and 12 months, or at > 12 months of age had significantly increased odds of developing mast cell cancer, lymphoma, all other cancers, all cancers combined, and fear of storms, compared with the odds for sexually intact dogs. Females gonadectomized at _12_ months of age and males and females gonadectomized at > 12 months of age had significantly increased odds of developing hemangiosarcoma, compared with the odds for sexually intact dogs. Dogs gonadectomized at _6_ months of age had significantly increased odds of developing a behavioral disorder. The younger the age at gonadectomy, the earlier the mean age at diagnosis of mast cell cancer, cancers other than mast cell, hemangiosarcoma, lymphoma, all cancers combined, a behavioral disorder, or fear of storms.

Conclusions and Clinical Relevance—Additional studies are needed on the biological effects of removing gonadal hormones and on methods to render dogs infertile that do not involve gonadectomy. Veterinarians should discuss the benefits and possible adverse effects of gonadectomy with clients, giving consideration to the breed of dog, the owner’s circumstances, and the anticipated use of the dog. (J Am Vet Med Assoc 2014;244:309–319)
Compartment syndrome associated with expansile antebrachial tumors in two dogs

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Case Description—A 10-year-old spayed female Jack Russell Terrier and a 7-year-old neutered male mixed-breed dog were evaluated because of acute, progressive, unilateral forelimb lameness associated with signs of pain and turgid antebrachial swelling.

Clinical Findings—For either dog, there were no salient pathological or diagnostic imaging abnormalities. A diagnosis of compartment syndrome was confirmed on the basis of high caudal antebrachial compartmental pressure in the affected forelimb.

Treatment and Outcome—Both dogs underwent surgical exploration of the affected forelimb. In each case, an intramuscular tumor (mast cell tumor in the Jack Russell Terrier and suspected sarcoma in the mixed-breed dog) was detected and presumed to be the cause of the high compartmental pressure. At 6 months following tumor excision, the dog with the mast cell tumor did not have any clinical signs of disease. The dog with a suspected sarcoma underwent tumor excision and forelimb amputation at the proximal portion of the humerus followed by chemotherapy; the dog was euthanized approximately 1 year following treatment because of pulmonary metastasis.

Clinical Relevance—Compartment syndrome is a serious but rarely reported condition in dogs and is typically ascribed to intracompartmental hemorrhage. These 2 cases illustrate the potential for expansile intramuscular antebrachial tumors to cause compartment syndrome in dogs. (J Am Vet Med Assoc 2014;244:346–351)
Hemipelvectomy: Modified Surgical Technique and Clinical Experiences From a Retrospective Study

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Objective: To report a technique for hemipelvectomy surgery in the dog and cat.
Study Design: Descriptive report.

Methods: To describe patient selection and an anatomically based surgical technique for hemipelvectomy.
Results: Surgery of the pelvis requires detailed anatomic knowledge of the pelvic region. Hemipelvectomy is a major surgical procedure with potential for substantial hemorrhage because of transection through large muscle groups and proximity to major vessels. The anatomic dissection may enable better adherence to principles of compartmental resection of tumors and reduced patient morbidity.
Conclusions: When performed with appropriate care, preoperative planning, and good anesthesia support, hemipelvectomy can be performed safely and is effective for radical excision of various tumor types arising from or near the pelvis.

Veterinary Surgery 43 (2014) 19-26
Objective: To report clinical findings, perioperative complications and long-term outcome in dogs and cats that had hemipelvectomy surgery for treatment of neoplasia.

Study Design: Multi-institutional retrospective case series.

Animals: Dogs (n=84) and cats (16).

Methods: Medical records (January 2000 to December 2009) of dogs and cats that had hemipelvectomy at participating institutions were reviewed. Postoperative progress and current status of the patient at the time of the study was determined by either medical record review, or via telephone contact with the referring veterinarian or owner.

Results: Complications were infrequent and usually minor. Hemorrhage was the main intraoperative complication; 2 dogs required blood transfusion. One dog developed an incisional hernia. In dogs, hemangiosarcoma had the worst prognosis with a median survival time (MST) of 179 days. MST for chondrosarcoma (1232 days), osteosarcoma (533 days), and soft tissue sarcoma (373 days) were not statistically different. Median disease-free interval (DFI) for local recurrence of all tumor types was 257 days. Cats had 75% survival at 1 year, which was significantly longer than dogs.

Conclusions: Survival times for most tumor types can be good, but surgical margins should be carefully evaluated to ensure complete tumor removal. Adjuvant therapies may be advisable particularly for dogs to reduce rates of local recurrence or distant metastasis. Veterinary Surgery 43 (2014) 27-37
Comparison of Surgical Variables in Cats Undergoing Single-Incision Laparoscopic Ovariectomy Using a LigaSure or Extracorporeal Suture Versus Open Ovariectomy

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Objective: To evaluate the applicability of single-incision laparoscopic ovariectomy (SILOVE) in cats using a single-incision laparoscopic port (SILP); to compare surgical time, complications, and postoperative pain after SILOVE using a LigaSure (SILOVELS) or extracorporeal suture (SILOVE-ECS), and open ovariectomy (open-OVE).

Study Design: Randomized, blinded, prospective study.

Animals: Healthy, domestic female cats (n=24).

Methods: Cats underwent physical examination, packed cell volume, total solids and blood urea nitrogen analysis. Cats were randomly assigned to 1 of 3 groups: SILOVELS (n=8), SILOVE-ECS (8) or open-OVE (8). Surgical time, complications, and postoperative pain scores were recorded.

Results: Single-incision laparoscopic ovariectomy was successful in (n=8) SILOVELS cats and (n=5) SILOVE-ECS cats. Surgical time was significantly longer for the SILOVE-ECS group compared with the SILOVE-LS (P<.0001) and open-OVE (P<.0001) groups, which were not different (P=.55). Complications were more frequent in the SILOVE-ECS group and removal of the SILP was required to complete ovariectomy in 3 cats. Cumulative 4-hour pain scores were not different between groups.

Conclusions: Single-incision laparoscopic ovariectomy using a SILP is a feasible method for OVE in cats. Single-incision laparoscopic ovariectomy using an extracorporeal suture is more time consuming and associated with more complications than either the SILOVE-LS or open-OVE methods. Veterinary Surgery 43 (2014) 38-44
Pericardioscopic Imaging Findings in Cadaveric Dogs: Comparison of an Apical Pericardial Window and Sub-phrenic Pericardectomy

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Objective: To compare the pericardioscopic cardiovascular anatomy visible between apical pericardial window (PW) and sub-phrenic pericardectomy (SPP).

Study Design: Experimental study.

Animals: Canine cadavers (n=5).

Methods: Thoracoscopy was performed using a transdiaphragmatic subxyphoid and right and left intercostal portals. A 4 cm x 4 cm apical PW was created with endoscopic scissors. The intrapericardiac structures were then pericardioscopically assessed using a subjective ordinal scale (0: not visible, 1: <50% seen, 2: >50% seen) before SPP. Assessment was repeated after SPP.

Results: An apical PW provided limited access to the cardiac structures, with only the right ventricle >50% visible in all cadavers. The right atrium, right auricle, left ventricle, right coronary artery, and interventricular paraconal branch of the left coronary artery were observed but were typically <50% visible after apical PW. The left atrium and auricle, and heart base could not be consistently seen through an apical PW. Sub-phrenic pericardectomy significantly improved observation of all intrapericardiac structures assessed, except for the right atrium and right ventricle.

Conclusions: PW centered over the cardiac apex limits evaluation of the pericardial space during pericardioscopy compared to SPP in cadaveric dogs.
The Outcome of Combined Urethropexy and Colposuspension for Management of Bitches With Urinary Incontinence Associated With Urethral Sphincter Mechanism Incompetence

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Objective: To report 1) a combined technique of urethropexy and colposuspension; 2) intra- and postoperative complications; and 3) medium term outcome.

Study design: Retrospective case series.

Animals: Female dogs (n=30) with urinary incontinence associated with urethral sphincter mechanism incompetence (USMI) unresponsive to medical management.

Methods: Through a ventral median celiotomy, the bladder was positioned abdominally to permit the urethra to be anchored with single interrupted polypropylene sutures to the prepubic tendon and linea alba. The vagina was freed from the vesicovaginal and rectovaginal attachments and advanced cranially by traction before attachment to the prepubic tendon with polypropylene mattress sutures. Bitches were re-examined 2 weeks postoperatively; medium term outcome (>6 months) was evaluated by telephone interview of owners.

Results: At a median follow up of 39.5 months, 21 bitches (70%) were considered to have an “excellent” medium term outcome with complete resolution of their urinary signs; 8 (26.6%) had a “good” outcome, and 3 (10%) had mild transient dysuria postoperatively.

Conclusion: Combined urethropexy and colposuspension resulted in complete resolution of urinary incontinence in 70% of bitches with USMI and was not associated with major complications. Veterinary Surgery 43 (2014) 52-57
Knot Security and Tensile Strength of Suture Materials
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Objective: To evaluate knot security and tensile failure load of suture tied in simple interrupted, beginning continuous, and ending continuous patterns for 11 suture materials commonly used in small animal surgery.

Study design: Mechanical study.

Methods: For each of 11 suture material types, and 5 knot sizes (2, 3, 4, 5, and 6 throws) 2 surgeons each tied 6 knots (n=12 for each knot size in 11 suture materials). Three types of patterns were evaluated: a simple interrupted square knot, a square knot beginning a simple continuous pattern, and the knot ending a simple continuous pattern. All knots were incubated in healthy canine donor plasma at 40°C for a minimum of 24 hours. Sutures were evaluated for knot security (knots untied, suture failed by breaking, suture slipped from the clamps, or suture untied before testing) and maximum load carried before knot slippage or knot failure (termed tensile failure load).

Results: Significant differences were found in knot security and tensile failure load among suture types. There was no significant difference between the simple interrupted knots and the knots at the beginning of a simple continuous pattern; however, both were significantly less likely to fail than the knots tied at the end of a simple continuous pattern. The number of throws per knot had a significant effect for knot security and tensile failure load. Surgeon experience had a significant effect on failure mode and tensile failure load.

Conclusions: Suture type, number of throws per knot (knot size), suture pattern, and surgeon experience play an important role in knot security and should be considered when performing surgery.
The inheritance of extra-hepatic portosystemic shunts and elevated bile acid concentrations in Maltese dogs


OBJECTIVES: To determine the heritability of extra-hepatic portosystemic shunts and elevated post-prandial serum bile acid concentrations in Maltese dogs.

MATERIALS AND METHODS: Maltese dogs were recruited and investigated by a variable combination of procedures including dynamic bile acid testing, rectal ammonia tolerance testing, ultrasonography, portal venography, surgical inspection or necropsy. In addition, nine test matings were carried out between affected and affected dogs, and affected and unaffected dogs.

RESULTS: In 135 variably related Maltese, shunt status could be confirmed in 113, including 19 with an extra-hepatic portosystemic shunt (17 confirmed at surgery, 2 at necropsy). Rectal ammonia tolerance testing results and post-prandial serum bile acid concentrations were retrievable for 50 and 88 dogs, respectively. Pedigree information was available for these 135 and an additional 164 related dogs. Two consecutive test matings were carried out between two affected animals (whose shunts had been attenuated), with 2 of 8 (25%) of offspring having an extra-hepatic portosystemic shunt. Six test matings were carried out between an affected and an unaffected animal, with 2 of 22 (9%) offspring affected. Heritability of extra-hepatic portosystemic shunt was 0.61 calculated using variance components analysis [95% confidence interval (CI) 0.14 to 1.0, P=0.001]. The best fitting model from segregation analysis was a common, partially penetrant, recessive model (allele frequency 0.34, penetrance 0.99, CI 0.09 to 1.0). The heritability of elevated post-prandial serum bile acid (and thus likely portal vein hypoplasia) was 0.81 (CI 0.43 to 1.0, P=0.2) after logarithmic transformation of post-prandial serum bile acid concentrations.

CLINICAL SIGNIFICANCE: There is strong support for extra-hepatic portosystemic shunts and elevated post-prandial serum bile acid concentrations both being inherited conditions in Maltese. Journal of Small Animal Practice (2014) 55, 14–21
Outcome following liver lobectomy using thoracoabdominal staplers in cats

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OBJECTIVES: To present outcomes and complications following liver lobectomy using thoracoabdominal staplers in cats, to identify factors associated with survival time and to confirm safety and feasibility.

METHODS: Retrospective analysis of case records (n=18) of cats that underwent liver lobectomy with a thoracoabdominal stapler.

RESULTS: Fourteen of the 18 cats (78%) survived to discharge. Median survival time was 136·5 days. On log-rank univariate analysis, preoperative abdominal fluid (P=0·002), preoperative anaemia (P=0·03) and perioperative transfusion (P=0·01) were associated with decreased survival time. Perioperative anaemia was common (89%), and rate of transfusion during hospitalisation was 61%.

Clinical signs of illness, azotaemia, elevated liver enzyme activities and malignant neoplasia did not appear to impact survival; however, anaemia, abdominal fluid and transfusion may be associated with decreased survival time.

CLINICAL SIGNIFICANCE: Liver lobectomy using thoracoabdominal staplers was effective in removal of hepatic lesions and all cats survived surgery. Outcome was negatively associated with preoperative abdominal fluid (haemorrhagic and non-haemorrhagic), preoperative anaemia or perioperative transfusion.

Surgeons should be prepared to employ ancillary methods of haemostasis to augment the staple line, and need for blood transfusion should be anticipated. Journal of Small Animal Practice (2014) 55, 22–27
Cytological and histological correlation in diagnosing feline and canine mediastinal masses

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OBJECTIVES: The aim of this study was to evaluate the agreement between cytological and histological diagnosis of canine and feline mediastinal masses to assess the utility of cytological examination in accurately diagnosing and classifying mediastinal lesions.

METHODS: A retrospective review of 58 cases of mediastinal masses from 21 dogs and 37 cats were performed. Histopathology was used as the diagnostic reference standard. The agreement between cytological and histological diagnosis was calculated.

RESULTS: The complete agreement between cytological and histological classification ranged from substantial (k=0.72, CI: 0.64 to 0.80) to almost perfect (k=0.89, CI: 0.82 to 0.96) depending on how the cytological diagnoses classified as suspicious were used for statistical calculations.

CLINICAL SIGNIFICANCE: Cytological examination of canine and feline mediastinal masses is a relatively easy, low-cost procedure, with good agreement with final histological diagnoses. Journal of Small Animal Practice (2014) 55, 28–32