Management of urinary incontinence in cats and dogs

Search strategy

Database: CAB Abstracts <2000 to 2018 Week 11>
Search Strategy:
--------------------------------------------------------------------------------
1 (Cats or dogs or canine* or feline*).mp.
2 (kidney or renal or urine or urinary).mp.
3 (diagnos* or biomarker* or stage or staging or treat* or therap* or nutrition* or diet* or manag*).mp.
4 incontinence.mp.
5 1 and 2 and 3 and 4
6 limit 5 to yr="2008 -Current"

References of relevance from CAB Abstracts database

<1>
Accession Number 20183059307
Author Deroy-Bordenave, C.; Irubetagoyena, I.
Title Urological surgery: Ectopic ureter surgery in dogs and long-term urinary incontinence. [French]
Source Point Veterinaire; 2018. 49(382 (Part 1)):6-7. 5 ref.
Publisher Newsmed
Location of Publisher Paris
Country of Publication France
Abstract The clinical aspects, classification, diagnosis, epidemiology, and treatment of ectopic ureter in dogs were discussed.
Publication Type Journal article.

<2>
Accession Number 20183052186
Ureterocele is a dilation of the final portion of the ureter, which results from an embryological failure of unknown cause. This article describes the case of a three-month-old female poodle with complaints of urinary incontinence. Imaging exams helped establish the diagnosis by disclosing an orthotopic cystic dilation. The surgical technique employed to treat the condition was resection of the ureterocele with marsupialization of the edges. Complete remission of clinical signs was achieved two months post-surgery; the dog remains continent two years after the procedure.

Drugs used to manage urinary incontinence in dogs & cats.

Submucosal collagen injection for management of urinary incontinence following urethral stent placement.
An 8-year-old, entire, male British Bulldog was referred for a week-long history of severe stranguria and dysuria. A prostatic wash was diagnostic of prostatic carcinoma. A transluminal urethral stent was placed in the proximal urethra, which resulted in resolution of the urinary obstruction, however, the dog developed severe urinary incontinence after the procedure. Cystoscopically-guided submucosal collagen injections were performed immediately proximal to the os penis. The dog's incontinence resolved with a single collagen injection for the 10-month follow-up period.

Abstract

Urinary incontinence of neurological origin in dogs and cats: physiopathology, diagnosis and treatment. [French]

Source

Author
Vandenberghe, H.; Blot, S.

Title

Accession Number
20173359931

Publication Type
Journal article.

Clinical response and side effects associated with testosterone cypionate for urinary incontinence in male dogs.

Accession Number
20173359931

Author
Palerme, J. S.; Mazepa, A.; Hutchins, R. G.; Ziglioli, V.; Vaden, S. L.

Title
Clinical response and side effects associated with testosterone cypionate for urinary incontinence in male dogs.
Urethral sphincter mechanism incompetence (USMI) is reported much more seldom in male dogs than in female dogs. The few existing reports evaluating the efficacy of medical therapy in controlling USMI in males have demonstrated limited success. In this case series, we report the effect of testosterone cypionate, given at a median dose of 1.5 mg/kg intramuscularly every 4 wk, in eight male dogs with USMI. Response was evaluated through the review of medical records and telephone interviews with the clients. Based on owners' assessments, a good to excellent response was reported in three of eight dogs (38%), a slight response was reported in one of eight dogs (12%), and a poor response was reported in four of eight dogs (50%). Adverse effects were not reported, and benefit was judged sufficient to continue therapy in two cases. The results reported in this case series suggest that testosterone cypionate might be an effective and safe treatment option for male dogs with USMI.
of modified colposuspension following ureteroneocystostomy to correct EEUs and its postoperative complication.

Publication Type
Journal article.

Accession Number
20173218439

Author
Byron, J. K.; Taylor, K. H.; Phillips, G. S.; Stahl, M. S.

Title
Urethral sphincter mechanism incompetence in 163 neutered female dogs: diagnosis, treatment, and relationship of weight and age at neuter to development of disease.

Source
Journal of Veterinary Internal Medicine; 2017. 31(2):442-448. 34 ref.

Publisher
Wiley

Location of Publisher
Boston

Country of Publication
USA

Abstract
Background: Urethral sphincter mechanism incompetence (USMI) is the most common cause of urinary incontinence in neutered bitches and is most common in dogs weighing >20 kg. Objectives: To describe a population of neutered bitches with USMI and investigate their initial presentation, the relationship between weight and age at neuter, and treatment. Animals: One hundred and sixty-three female dogs with USMI (UI) diagnosed between January 2009 and December 2012, and 193 continent neutered control (C) bitches.

Methods: Retrospective data were collected from neutered female dogs with USMI and healthy, continent neutered females presented between January 2009 and December 2012. Results: Urinary incontinent dogs weighed more than C dogs (P=.003), and there was no difference in age at neuter. The relationship between weight at diagnosis and age at neuter was found to impact the hazard of USMI. A decrease in the hazard of USMI was found in dogs weighing >25 kg for every month delay of neuter in the first year. The hazard did not change for dogs <15 kg. Median time from neuter to development of incontinence was 3.73 years. Phenylpropanolamine was prescribed in 75.5%, diethylstilbestrol in 21.5%, and both in 3.1% of dogs.

Conclusions and Clinical Importance: Neutering bitches expected to be >25 kg adult weight later in their first year may decrease the hazard of developing USMI, whereas age at neutering of bitches <25 kg may not impact continence. Heavier dogs have increased risk of USMI, and onset occurs within a few years of neuter.

Publication Type
Journal article.

Accession Number
20173175696

Author
Hnizdo, J.

Title
Cystoscopically-guided laser ablation of an ectopic ureter in a bitch - a case report. [Czech]

Source
The article describes the case of a five-month-old, female labrador retriever puppy presented for urinary incontinence. Based on clinical history and CT findings, an unilateral intramural ectopic ureter (EU) was diagnosed. As a method of treatment, cystoscopically-guided laser ablation (CGLA) was applied. A diode laser was utilized to ablate the luminal wall of the ectopic ureter through the working portal of the sheath of a rigid 2.7 mm endoscope. A new opening was successively achieved to the level of trigonum. Therapy was assessed as a successful. The bitch has currently no relevant signs of incontinence. The technique described is a completely non-invasive and outpatient procedure. It is relatively simple and appears to be safe. Among the risks of laser ablation, perforation of the urethra or bladder wall or uretral stricture has to be mentioned. The only drawback is a need for expensive instrumentation and expected experience with interventional endoscopy. The discussion presents an update on the prevalence and etiopathogenesis of ectopic ureters in dogs and therapeutic options including a summary of recent publications on the application of CGLA in veterinary medicine.
Accession Number  
20173007747
Author  
Kohlhauer, M.; Tissier, R.; Mallem, Y.
Title  
Medical treatment of urinary incontinence in male dogs. [French]
Source  
Abstract  
The clinical aspects, diagnosis, and pharmacological management of urinary incontinence in male dogs were discussed.

Accession Number  
20173011714
Author  
Maurey-Guenec, C.; Manassero, M.
Title  
Medical treatment for urinary incontinence. (Urologie et nephrologie en pratique chez le chien et le chat) [French]
Source  
Point Veterinaire; 2016. 47(Numero Special):118-121. 15 ref.
Abstract  
Sphincter incompetence related to sterilisation is the most common acquired form of incontinence in bitches. The symptoms can be eliminated in about 60% of cases with the use of oestrogen. The alpha-adrenergics help restore continence in 90% of cases as a first-line treatment or in cases of failure of oestrogen therapy. In cases of refractory incontinence, it is important to check for other functional abnormalities, such as a lack of bladder compliance that can be treated with the use of anticholinergics. In cases of incontinence related to urinary retention, cholinergics, alpha-lytics and muscle relaxants are used to promote bladder emptying.
In cases of urinary incontinence, surgical indications relate mainly to ureteral ectopia and sphincter incompetence. The treatment of ureteral ectopia is surgical and consists of a neo-urethrostomy or ureterovesical reimplantation. Full resolution of incontinence is achieved in about half the cases and a significant improvement with associated medical treatment in the majority of the remaining cases. The treatment of sphincter incompetence is based on administration of oestrogen or alpha 1-adrenergics in the first instance. Surgical techniques to strengthen the sphincter such as colposuspension, urethropexy or placement of a hydraulic peri-urethral artificial sphincter may be considered as second-line treatment.

An evaluation of post-operative urinary incontinence in dogs with intramural ectopic ureter treated with neoureterocystostomy.
The main motivation in the treatment of ectopic ureter (EU) is achieving complete urinary continence. Although, new neoureterostomy techniques were developed for the surgical treatment of intramural ectopic ureters, it was determined that postoperative incontinence scores achieved with the latest techniques have no distinct superiority over those achieved with older techniques. Therefore, we aim to determine the post-operative urinary incontinence scores in dogs with intramural EU that were treated with neoureterocystostomy and compared with older reports which neoureterostomy techniques were used. Seven female dogs which were brought to our clinic with a complaint of constant urine dribbling since they were born or adopted were included the study. The radiographic diagnosis was made by excretory urography.
in four dogs, excretory urography and retrograde vagino-urethrography in 2 dogs and MRI in 1 dog. Definitive
diagnosis was made by cystotomy. Ectopic ureters were intramural character in all cases.
Neoureterocystostomy technique was used for the surgical treatment and incontinence scores at post-
operative 1st and 2nd months were recorded. For the purpose of complete elimination of the postoperative
urinary incontinence, phenylpropanalamine were used in 4 cases and oxybutynin were used in 1 case as
additional medical therapy. Urinary incontinence was completely disappeared, 5 out of 7 patients (71%) at
the end of the study. In conclusion, the results suggest that EU is most successfully treated with a surgical
method that does not involve urethropotomy and it should be performed simultaneously with a surgical method
used in the treatment of urethral sphincter mechanism incompetence and should be combined with a
treatment involving the use of post-operative alpha adrenergic medications.
Abdominal urethral rupture commonly occurs in male dogs after traumatic pelvic fractures and can lead to uroperitoneum, causing peritonitis and azotemia. The primary complications of urethral damage include strictures, incontinence and innervation injury. Here, we describe a case report of prostatic urethral rupture, treated by primary suture repair, that yielded early healing and recovery in a ten-year-old, male, mixed-breed dog who visited our facility within 24 hours of being struck by a car. Positive contrast urethrocystography resulted in leakage of the contrast medium into the abdominal cavity in a point caudal to the urinary bladder. Additional radiography revealed multiple pelvic fractures. During surgery, we found a laceration of the right prostatic lobe causing urethral rupture. We performed a full thickness simple continue suture with 7-0 polyglactin 910 to reestablish urethral continuity. The prostate capsule was also sutured in a simple continue pattern. A previously placed indwelling urinary catheter was kept inside to divert urine flow. On the third postoperative day, the animal withdrew the urinary catheter and started to urinate by himself. The conservative treatment of pelvic fractures enabled complete return to function on the 55th day. One hundred and fifty days after the trauma, no evidence of urinary stricture or another clinical sign was observed. Urethral wounds can be treated surgically by primary suturing and urinary diversion. A short healing time was experienced, and the indwelling urinary catheter was removed three days after surgery since there was no more urine leakage and the animal began voiding normally.

<17>
Accession Number
20173185210
Author
Astudillo-Gajardo, M. G.; Agurto-Merino, M. K.; Issotta-Contardo, C. M.; Lara-Luna, J. I.; Weinborn-Astudillo, R. M.
Title
Case report: a clinical approach in a dog with unilateral and intramural ectopic ureter with combined surgical techniques. [Spanish]
Source
Publisher
Facultad de Ciencias Veterinarias, Universidad del Zulia
Location of Publisher
Maracaibo
Country of Publication
Venezuela
Abstract
A canine, mixed female, 4 months old, attended a medical consultation at the Veterinary Clinical Teaching Hospital (HCVD) Santo Tomas University (UST), Talca-Chile, because present urinary incontinence from the time exposed adoption, 2 months ago. The reason for the visit was the presentation of urinary incontinence from the time of its adoption, 2 months ago. Physical examination evidenced perivulvar urination drip and dermatitis. It was considered as the main pre-diagnosis ectopic ureter, so additional tests were requested, including an abdominal ultrasound and excretory urography, confirming the presence of unilateral ectopic ureter, intramural, which it was resolved surgically, performing a combined neoureterostomy and ureteroneocystostomy this because the income of the ureter site was lateral trigone, so had to change the
intra-operatively technique. The results were successful, 100% correcting incontinent patient. It is important to know more than one surgical technique because the situation can change during the surgical procedure, as occurred in this case.

Publication Type
Journal article.

<18>
Accession Number
20163019230
Author
Roundell, C. D. G.; Friend, E. J.
Title
Resolution of incontinence using an artificial urethral sphincter in feline genitourinary dysplasia.
Source
Veterinary Record Case Reports; 2015. 3(1):e000249. 12 ref.
Publisher
BMJ Publishing Group
Location of Publisher
London
Country of Publication
UK
Abstract
Limited information exists about surgical techniques to treat incontinence in cats. In this case, a four-month-old female entire domestic shorthair cat was presented with a history of severe urinary incontinence. Contrast studies supported a diagnosis of genitourinary and urethral dysplasia with urethral sphincter mechanism incompetence (USMI). The incontinence was unresponsive to medical treatment. At 10 months old, an artificial urethral sphincter (AUS) was surgically placed, restoring urinary continence completely. This case report demonstrates that an AUS - a technique previously described only for treatment in dogs with refractory incontinence - may be suitable for the management of refractory USMI in cats with congenital urinary incontinence. Also, in cases of persistent or recurrent incontinence, and at any time subsequent to the surgery, an increase in pressure around the urethra can be achieved, non-invasively, by inflating the AUS's percutaneous occluder.
Publication Type
Journal article.

<19>
Accession Number
20163019196
Author
Vessieres, F.; Selgas, A. G.; Rasotto, R.; Raffan, E.
Title
Primary hyperparathyroidism associated with hyperplasia of multiple parathyroid glands in a dog.
Source
Veterinary Record Case Reports; 2015. 3(1):e000191. 12 ref.
Publisher
BMJ Publishing Group
Location of Publisher
London
Country of Publication
UK

Abstract
A nine-year-old Italian Spinone dog presented with a history of urinary incontinence associated with polyuria/polydipsia (PUPD). Haematology and serum biochemistry identified hypercalcaemia. Subsequently, thoracic radiographs, abdominal ultrasound, urinalysis, serum assay of parathyroid hormone (PTH) and PTH-related protein concentrations and ultrasound of the parathyroid glands were consistent with a diagnosis of primary hyperparathyroidism. Unusually, however, all four parathyroid glands were noted to be enlarged on ultrasound, as opposed to a single parathyroid nodule (commonly an adenoma) as is normal in primary hyperparathyroidism. This presented a dilemma as to how best treat the dog; ultimately, two out of four parathyroid glands were removed. Postoperatively, normocalcaemia returned, and PUPD and incontinence resolved. Histopathological examination of the two removed glands was consistent with nodular hyperplasia of chief cells for one gland and nodular hyperplasia of chief cells and oxyphilic cells for the other gland, confirming a diagnosis of parathyroid hyperplasia.

Publication Type
Journal article.

Accession Number
20163059645

Author
Thude, T. R.

Title
Chiropractic abnormalities of the lumbar spine significantly associated with urinary incontinence and retention in dogs.

Source

Publisher
Wiley-Blackwell

Location of Publisher
Oxford

Country of Publication
UK

Abstract
Objectives: To retrospectively summarise chiropractic findings in dogs presented in a veterinary practice with urinary incontinence and urinary retention over a 6-year period, and compare these to non-urinary patients presented during the same time period. Methods: Twenty-two cases were included in the study. They all first underwent a standard clinical examination to rule out or treat other possible causes of their urinary problems. They then underwent chiropractic examination and hypomobility findings were recorded using Gonstead listings. Odds ratios (ORs) were calculated for the occurrence of chiropractic findings in urinary versus non-urinary patients for each vertebra in the lumbar, sacral and ilial regions. Results: All patients had chiropractic findings in the lumbar region that differed from non-urinary patients. They then underwent chiropractic examination and hypomobility findings were recorded using Gonstead listings. Odds ratios (ORs) were calculated for the occurrence of chiropractic findings in urinary versus non-urinary patients for each vertebra in the lumbar, sacral and ilial regions. Results: All patients had chiropractic findings in the lumbar region that differed from non-urinary patients. The urinary patients were significantly more likely to have chiropractic findings in L3 (OR=4.81; 95%CI: 2.02 to 11.44; P=0.0004), L4 (OR=6.85; 95%CI: 2.63 to 17.84; P=0.0001) and L5 (OR=3.98; 95%CI: 1.64 to 9.69; P=0.0023). In addition, urinary patients were significantly less likely to have chiropractic findings associated with the ilium (OR=0.26; 95%CI: 0.11 to 0.66; P=0.0043). Clinical Significance: This is the first report of an association between chiropractic findings in the lumbar vertebrae and urinary incontinence and retention in dogs.

Publication Type
Journal article.
Use of a percutaneously controlled hydraulic occluder for treatment of refractory urinary incontinence in three female cats.

CASE DESCRIPTION: 3 cats were referred for evaluation of chronic urinary incontinence. CLINICAL FINDINGS A presumptive diagnosis of urethral sphincter mechanism incompetence (USMI) was made in all 3 cats. Preoperatively, incontinence was mild in 1 cat (incontinence during sleep) and moderate to severe (incontinence while awake and at rest) in 2. Structural abnormalities noted during cystoscopy included urethrovesimal junction stenosis (n=1), vaginal stenosis (1), short urethra (1), and intrapelvic bladder (1). TREATMENT AND OUTCOME: All 3 cats were treated by means of implantation of an inflatable silicone hydraulic occluder (HO) via a ventral midline celiotomy. Immediately prior to HO implantation, patients underwent cystoscopy to detect any anatomic abnormalities and confirm the absence of ureteral ectopia. Following surgery, all 3 patients attained complete continence, needing 0 or 1 inflation of the device. Complications included cystoscopy-associated urethral tear (n=1), constipation (1), stranguria (1), hematuria (2), and urinary tract infection (2). Device explantation was performed 14 weeks after surgery in 1 cat because of postoperative constipation. Constipation persisted and urinary incontinence recurred but was markedly improved following device removal in this cat (leakage of urine only when sleeping at follow-up 29 months after surgery [26 months after device explantation]). At the time of last follow-up, 2 of the 3 cats remained fully continent approximately 3 and 6 years after device implantation. CLINICAL RELEVANCE: Findings suggested that implantation of an HO may be a safe and effective long-term treatment for some cats with USMI. Further studies are necessary to evaluate the potential for treatment-related complications and the long-term outcome.
Abstract
Minimally invasive treatment options using interventional radiology and interventional endoscopy for urologic disease have become more common over the past decade in veterinary medicine. Urinary tract obstructions and urinary incontinence are the most common reasons for urinary interventions. Ureteral obstructions are underdiagnosed and a common clinical problem in veterinary medicine. Ureteral obstructions should be considered an emergency, and decompression should be performed as quickly as possible. Diagnostic imaging is the mainstay in diagnosing a ureteral obstruction and has changed in the last few years, with ultrasound and radiographs being the most sensitive tools in making this diagnosis preoperatively.

Publication Type
Journal article.

<23>
Accession Number
20163136399
Author
Ogawa, T.; Sakano, F.; Yamada, Y.; Ogawa, H.
Title
Cellophane banding for treatment of urethral dilation in a dog. [Japanese]
Source
Publisher
Japanese Society of Veterinary Anesthesia & Surgery
Location of Publisher
Tokyo
Country of Publication
Japan
Abstract
A 5-month-old male Shih Tzu was diagnosed with a lateral ectopic ureter. The disorder was surgically treated; however, the dog's urinary incontinence was not resolved. Several subsequent medical therapies were ineffective. Therefore, cellophane tape banding was applied around the dilated urethra 2 months postoperatively. After this surgery, the urinary incontinence completely disappeared and had not recurred at the time of this writing. However, an asymptomatic cystic diverticulum was found 1 month after cellophane tape banding. This method might be a therapeutic option for repairing urethral dilatation.
Publication Type
Journal article.

<24>
Accession Number
20163149399
Author
Gultekin, C.; Ozgencil, E.; Seyrek-Intas, D.
Title

Source
Kafkas Universitesi Veteriner Fakultesi Dergisi; 2016. 22(3):465-468. 18 ref.

Publisher
Kafkas Universitesi, Veteriner Fakultesi Dergisi

Location of Publisher
Kars

Country of Publication
Turkey

Abstract
In this report, deslorelin acetate (suprelorin) implant, a GnRH depot analogue, was used for the first time in postoperatively observed urinary incontinence treatment of one year old female Golden Retriever puppy which came to our hospital with urinary incontinence complaint, diagnosed with left unilateral extramural ectopic ureter, treated for her ectopic ureter with ureteroneocystostomy operation and undergone ovariohysterectomy operation at the same time. In the examination at the end of eight months of postoperative period, it was observed that urinary incontinence which was thought to be due to urinary sphincter deficiency following the ectopic ureter surgery has been completely disappeared. The positive effect of deslorelin acetate on the treatment of urinary incontinence after ovariohysterectomy, which was reported in the literature in a limited number, was also found to be effective in the treatment of urinary sphincter deficiency, which was frequently observed following the ectopic ureter surgery.

Publication Type
Journal article.

A 6-year old Jack Russell terrier dog had permanent urinary incontinence that did not respond to medical treatment. The diagnosis was made after other causes of sphincter incompetence were excluded by clinical and radiographic examinations. The condition was managed by placement of an artificial urethral sphincter, with pressure on the urethra adjustable. Clinical improvement was observed after two injections of sterile physiological solution into the system, and performed at 6 to 7 weeks postoperatively. Diagnosis and postoperative surveillance are essentially by clinical examination and ultrasonography. Complications are rare and the prognosis appears to provide better control of incompetence in the male than the surgical techniques described previously.

Publication Type
Journal article.
Accession Number
20163199869
Author
Martinez, C.; Bennaim, M.; Shiel, R.
Title
Urinary incontinence in dogs: pathophysiology and medical management.
Source
The Veterinary Nurse; 2015. 6(8):470-480.
Publisher
MA Healthcare Limited
Location of Publisher
London
Country of Publication
UK
Abstract
Urinary incontinence is a disorder of micturition characterised by the inappropriate leakage of urine. Increasing attention has been brought to this disorder over the past 30 years as dogs have been increasingly living indoors with their owners. Several diagnostic tests and treatment options are available nowadays. This review focuses on the pathophysiology, investigations and medical management of urinary incontinence.
Publication Type
Journal article.

Accession Number
20163283018
Author
Dinesh Kumar; Behl, S. M.; Prem Singh; Madan Pal; Chandolia, R. K.
Title
Diagnosis and surgical management of urolithiasis in dogs.
Source
Intas Polivet; 2016. 17(1):164-166. 7 ref.
Publisher
Intas Pharmaceuticals Ltd
Location of Publisher
Ahmedabad
Country of Publication
India
Abstract
Three dogs of age 6-12 years were presented with history of urine incontinence, anorexia and frequent straining for micturition since two to three days. The condition was diagnosed as urolithiasis after radiography and ultrasonography. The blood urea and serum creatinine levels were elevated in two dogs. In ultrasonography, acoustic shadowing distal to calculi confirmed the diagnosis. In one case ultrasonography showed hypoechoic pus along with anechoic urine. The calculi were removed after cystotomy and obstruction to urine was relieved. The dog with pus filled urinary bladder didn't survived. Rest two dogs showed uneventful recovery and restoration of normal urination in 12 days.
Publication Type
Journal article.
A three year old, crossbred intact dog was presented with history of urinary incontinence for past 3 days. On physical examination, external urethral orifice was opening at the ventral surface of the penis rather than the tip of glans with bifid scrotum, hence the case was diagnosed as hypospadias. The cause of the hypospadias is not known, it is presumed that the affected foetus may secrete inadequate quantities of testosterone or that there may be inadequate conversion of testosterone to dihydrotestosterone in the target tissues of the urogenital sinus and external genitalia. In the present case, prepupial sheath was incomplete hence reconstructive surgery of the penile prepupial sheath was performed to cover the exposed dry penis and animal recovered uneventfully.

Publication Type
Journal article.

A study was conducted on three dogs of 6 to 12 years of age that were presented to the Teaching Veterinary Clinical Complex of this university with the history of urine incontinence, anorexia and stranguria since two to three days. Based on radiography and ultrasonography, the dogs were diagnosed to be suffering from cystoliths. On ultrasonography acoustic shadowing distal to the calculi confirmed the diagnosis in all cases. In one case ultrasonography revealed hypoechoic pus along with anechoic urine. Blood urea
and serum creatinine levels were elevated in two of the three dogs. The calculi were removed after
cystotomy and obstruction to urine was relieved. The dog with pus filled urinary bladder did not survive.
Remaining two dogs showed uneventful recovery and restoration of normal urination in 12 days.

Publication Type
Journal article.
ovariohysterectomy, as has been reported in the dog; however, the presenting sign of chronic urinary incontinence is unique. Response to surgical correction was favourable.

Publication Type
Journal article.

<32>
Accession Number 20163329448
Author Roundell, C. D. G.; Friend, E. J.
Title Surgical resolution of urinary incontinence in a cat with genitourinary dysplasia using an artificial urethral sphincter. [Spanish]
Source Argos - Informativo Veterinario; 2016. (181):50, 52. 12 ref.
Publisher ASIS Biomedia s.l.
Location of Publisher Zaragoza
Country of Publication Spain
Abstract This article discusses the application, advantages, relative simplicity of the technique and effectiveness of artificial urethral implant in managing urinary incontinence due to genitourinary dysplasia in a 10-month-old cat.
Publication Type Journal article.

<33>
Accession Number 20163365313
Author Bottero, E.; Pastore, L.; Lorenzi, D. de
Title Urinary incontinence due to a urethral-vaginal fistula in a spayed adult female dog. [Italian]
Source Veterinaria (Cremona); 2016. 30(3):187-192. 15 ref.
Publisher Edizioni SCIVAC
Location of Publisher Cremona
Country of Publication Italy
Abstract A spayed 5-year-old female Shih-Tzu dog was examined for urinary incontinence not responding to medical treatment and for recurrent vaginitis. An urethro-vaginal fistula was diagnosed by genito-urinary endoscopy and was treated by vaginectomy, which resolved the incontinence.
Publication Type
A castrated male Yorkshire Terrier dog was presented for urinary incontinence and constipation. On physical examination, the dog showed difficult urination. There were no neurological abnormalities and no bacterial detection on urinalysis. Rectal examination revealed a regular, normal-sized prostate. Urethral catheterization was performed easily. Excretory urography and retrograde positive contrast urethrocytography showed displacement of the urinary bladder to the intrapelvic region. There was no evidence of an ectopic ureter. A tentative diagnosis of urethral sphincter mechanism incompetence accompanied with a pelvic bladder was made. Cystopexy was decided to place the urinary bladder to its normal position. The neck of the urinary bladder was anchored to the body wall and prepubic tendon using mattress sutures. Additional sutures were placed to appose the lateral part of the urinary bladder and abdominal wall. A simple interrupted suture was placed to tack the apex of the urinary bladder on the abdominal incision line. A urinary catheter was placed in the urinary bladder to provide post-operative evacuation. The catheter was removed when the dog was able to urinate with minimal straining at 3 days post-operatively. The owner reported that the dogs showed normal urination without straining at 3 days after the catheter was removed. Excretory urography revealed that the urinary bladder was located on its normal position at 2 months post-operatively. Subsequent communication with the owner by telephone revealed that the dog was in good urination at 3 years 11 months post-operatively.

Publication Type
Journal article.
Location of Publisher
Praha 2
Country of Publication
Czech Republic
Abstract
Group of 45 geriatric dogs of both gender with signs of urinary incontinence has been subjected to retrospective analysis. Studied were age, gender, gonadal status, breeding affiliation, type of incontinence, comorbidity and the effect of therapy. Involvement has been more frequently observed in male and castrated individuals of both sexes. Type sphincter mechanism incompetence prevailed. Common comorbidities were prostatopathy, urinary infections or conditions leading to the syndrome of polyuria/polydipsia. The success of treatment was generally high and amounted to 85%.
Publication Type
Journal article.

<36>
Accession Number
20153057232
Author
Westropp, J. L.
Title
Diagnostics and management of canine urinary incontinence.
Source
Publisher
Ontario Veterinary Medical Association (OVMA)
Location of Publisher
Milton
Country of Publication
Canada
Publication Type
Conference paper.

<37>
Accession Number
20153118842
Author
Klett, M.; Dunie-Merigot, A.; Poujol, L.
Title
Use of an urinary hydraulic sphincter as a treatment of a refractory urinary incontinence after ectopic ureter surgery on a bitch. [French]
Source
Publisher
Elsevier Masson
Location of Publisher
Issy-les Moulineaux Cedex
Country of Publication
France

Abstract
An 8-month-old Labrit was referred for urinary incontinence since the adoption. A bilateral ectopic ureter was diagnosed and a neo-ureterostomia is performed. The persistence of incontinence leads to a urethral sphincter incompetence suspicion and a medical treatment (phenylpropanolamine) is prescribed with a partial remission of the urinary incontinence. An artificial urethral sphincter is then proposed and installed surgically. Fifteen months later, the dog is still continent and no complications are noted. This article describes the different treatments available in veterinary medicine for urinary incontinence. Medical or surgical treatments can be proposed, depending on the cause of urinary incontinence. As far as the ectopic ureter is concerned, 40 to 67% of the animals remain incontinent after surgery. The association of a surgical and a medical treatment tend to improve continence scoring. For refractory cases, new surgical techniques have to be proposed. Since 2004, hydraulic urethral sphincters have shown very promising results (improvement of urinary incontinence in 100% of the cases, three months after surgery). They are an interesting alternative for refractory cases to classical treatments of urethral sphincter incompetence.

Publication Type
Journal article.

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<38>
Accession Number
20153125908
Author
Deschamps, J. Y.; Roux, F. A.
Title
Transobturator vaginal tape for treatment of urinary incontinence in spayed bitches.
Source
Publisher
American Animal Hospital Association
Location of Publisher
Denver
Country of Publication
USA
Abstract
This study investigated the long-term effectiveness and safety of a variant of the transobturator vaginal tape inside-out technique for acquired urinary incontinence. Twelve spayed female dogs were operated over a 2 yr period. No intraoperative complications were encountered. Transient dysuria was the most common postoperative complication (7 out of 12 dogs). On the 12th day postoperatively, incontinence was completely cured in 11 out of 12 dogs (92%). At the time of the second evaluation (median follow-up time was 21 mo), patients classified as "cured," "greatly improved," or "improved" were 25, 50, and 25% of the total, respectively. At the time of either the fourth evaluation or at the time of death (median follow-up time was 52 mo), 50% of the bitches (6 out of 12) had the same results as previously but the other 50% had leakage that reappeared sporadically. A fistula appeared on the path of the tape in two bitches at 28 and 32 mo postsurgically. The technique presented is effective and more cost effective than the standard technique and could constitute an attractive alternative; however, it could be associated with an immediate postoperative dysuria, delayed fistula formation, and a partial recurrence of clinical signs.
Publication Type
Journal article.
Injectable bulking agents for treatment of urinary incontinence.


Bartges, J. W.; Callens, A. J.

Congenital diseases of the lower urinary tract. (Special Issue: Urology.)


Watanabe, T.; Suzuki, K.; Mishina, M.

Common urogenital sinus in a dog. [Japanese]
A 6-month-old, intact female Papillon dog with a body weight of 1.46 kg was referred to our hospital for examination due to persistent incontinence. At the initial visit, bacterial cystitis, urethral sphincter mechanism incompetence and vaginal/uterine aplasia were suspected following urine examination and retrograde urethrography. Since the incontinence did not respond to pharmacological therapy, transvulvar endoscopy and exploratory laparotomy were performed. We found that both of the uterine horns were connected to the dorsal part of the urinary bladder neck, where they merged with the urethra to form a single tubular structure that opened to the vulva. Based on these intraoperative findings, common urogenital sinus was diagnosed. To control the incontinence, urethral plication was performed. The surgical course was favorable, with a reduction in incontinence symptoms.

A 4-month-old female Siberian Husky was presented for evaluation of urinary incontinence. Abdominal ultrasonography suggested bilateral mega-ureter but visualization of the final segment of the ureter for insertion was not possible. Excretory tests confirmed bilateral ureteral ectopia with the left ureter being extramural and right intramural, both opening onto the urethra. Neuro-heterocystotomy was performed and by 15 days of surgery, miction control improved. Antibiotic treatment for an adjacent cystitis resolved urinary incontinence. The findings show that an early diagnosis of ureteral ectopia can avoid problems with lower and upper urinary tract. Because treatment is by surgical correction, the owner should be advised beforehand to avoid postoperative complications such as permanent urinary incontinence. Ureteral ectopia is a congenital defect, so animals with this anomaly should be excluded from reproduction through elective castration.
<43>
Accession Number
20153170748
Author
Westropp, J. L.
Title
Urethral sphincter mechanism incompetence.
Source
Publisher
North American Veterinary Community (NAVC)
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.

<44>
Accession Number
20153213415
Author
Pratschke, K. M.
Title
Urinary incontinence in veterinary patients: not just a medical problem.
Source
Publisher
Veterinary Ireland
Location of Publisher
Dublin
Country of Publication
Irish Republic
Publication Type
Journal article.

<45>
Accession Number
20153282573
Author
Kim HyeYoung; Hong EunJi; Park HyungJin; Kwon HyoJung; Song KunHo; Seo KyoungWon
Title
Multiple subcutaneous nodular metastasis from transitional cell carcinoma of the urinary bladder in a dog.
Source
A 10-year-old spayed female Pomeranian dog weighing 3.65 kg was presented with a 7-month history of urinary incontinence, stranguria and hematuria. The patient had mass lesions at left prescapular region (3 cm x 3 cm) and left axillary region (5 cm x 4 cm). Diagnosis of transitional cell carcinoma (TCC) with multiple cutaneous metastasis was made. Dog was treated with chemotherapy using mitoxantrone and piroxicam for 5 months. Although TCC size of urinary bladder was decreased during chemotherapy, there was no change of subcutaneous tumor size and mild relief of clinical signs. Partial anorexia for 3 weeks and multiple masses were noted at left caudal abdominal wall and left medial thigh (203 days after first presentation) and assessed as chronic kidney disease and additional subcutaneous metastasis of urinary bladder TCC by post-mortem and histopathological findings.

The combination of urethropexy and colposuspension for the management of urinary incontinence associated with urethral sphincter mechanism in bitches has recently been described. The success rate for this procedure (70%) is considerably more favourable than has been reported for either individual technique, and is associated with a low rate of complications.
Multimodal therapy. [German]

Source

Publisher
Sonntag Verlag GmbH

Location of Publisher
Stuttgart

Country of Publication
Germany

Abstract
Animal incontinence, affecting mainly she-dogs and rarely male-dogs or cats, is part and parcel of day-to-day diagnoses in veterinary practice. The therapy involves clarifying whether the incontinence occurs continuously or intermittently. This could be caused by several factors. A temporarily occurring incontinence could be a consequence of bladder or urethral injury or caused by fright, shock, stress, anxiety, excitement or by poor animal care conditions, especially regarding cats. There could be an overactive bladder, kidney and/or bladder disease. Incontinence can also occur from time to time when the dog is fed on raw diet. Continuous incontinence, which can partially exhibit some small continents phases, has the following possible causes: old-age, spayed she-dog, uncastrated male-dog, a neurological problem (cauda equine syndrome, spinal cord infarction, and herniated disc), bladder stones, Diabetes insipidus, deformity or tumor.

Abstract
Effects of urinary bladder retroflexion and surgical technique on postoperative complication rates and long-term outcome in dogs with perineal hernia: 41 cases (2002-2009).

Objective - To evaluate the effects of urinary bladder retroflexion (UBR) and surgical technique on postoperative complication rates and long-term outcome in dogs with perineal hernia. Design - Retrospective case series. Animals - 41 client-owned dogs with perineal hernia that underwent surgery between November 2002 and November 2009. Procedures - Medical records were reviewed for information on dog signalment, history, physical examination findings, ultrasonographic findings, surgical techniques, intraoperative complications, duration of hospital stay, postoperative complications, and long-term outcome. Results - 31 dogs had no UBR, and 10 dogs had UBR. Internal obturator muscle transposition (IOMT) was performed in 20 dogs, and a cystopexy or colopexy was performed before the IOMT (LapiOMT) in 21. Postoperative complications included tenesmus (n=8) and urinary incontinence (1). Rates of postoperative complications were not significantly different between the no-UBR and UBR groups or between the IOMT and LapiOMT groups. Thirty-two dogs were free of clinical signs at the time of the study. The median disease-free interval did not differ significantly between dogs in the no-UBR and UBR groups, but it was significantly lower in the...
LapIOMT group than in the IOMT group. None of the 7 dogs with UBR that were treated without cystopexy developed recurrence of UBR. Conclusions and Clinical Relevance - UBR was not associated with an increased rate of postoperative complications relative to no UBR and had no effect on the long-term outcome in dogs with perineal hernia. The use of IOMT alone may be recommended for clinical use because LapIOMT offered no clear advantage.

Publication Type
Journal article.

<49>
Accession Number
20143026835
Author
Berent, A.
Title
New techniques on the horizon: interventional radiology and interventional endoscopy of the urinary tract (‘endourology’). (Special Issue: Endoscopy and endosurgery, part 2.)
Source
Publisher
Sage Publications
Location of Publisher
Thousand Oaks
Country of Publication
USA
Abstract
Practical relevance: Interventional radiology and interventional endoscopy (IR/IE) uses contemporary imaging modalities, such as fluoroscopy and endoscopy, to perform diagnostic and therapeutic procedures in various body parts. The majority of IR/IE procedures currently undertaken in veterinary medicine pertain to the urinary tract, and this subspecialty has been termed ‘endourology’. This technology treats diseases of the renal pelvis, ureter(s), bladder and urethra. In human medicine, endourology has overtaken traditional open urologic surgery in the past 20-30 years, and in veterinary medicine similar progress is occurring. Aim: This article presents a brief overview of some of the more common IR/IE procedures currently being performed for the treatment of urinary tract disease in veterinary patients. These techniques include percutaneous nephrolithotomy for lithotripsy of problematic nephrolithiasis, mesenchymal stem cell therapy for chronic kidney disease, sclerotherapy for the treatment of idiopathic renal hematuria, various diversion techniques for ureteral obstructions, laser lithotripsy for lower urinary tract stone disease, percutaneous cystolithotomy for removal of bladder stones, hydraulic occluder placement for refractory urinary incontinence, percutaneous cystostomy tube placement for bladder diversion, urethral stenting for benign and malignant urethral obstructions, and antegrade urethral catheterization for treatment of urethral tears. Evidence base: The majority of the data presented in this article is solely the experience of the author, and some of this has only been published and/or presented in abstract form or small case series. For information on traditional surgical approaches to these ailments readers are encouraged to evaluate other sources.
Publication Type
Journal article.

<50>
Accession Number
20143025519
Author
Lane, I. F.

Title
Diagnosing canine urinary incontinence.

Source

Publisher
Educational Concepts LLC

Location of Publisher
Tulsa

Country of Publication
USA

Publication Type
Journal article.

<51>

Accession Number
20143036141

Author
Martinoli, S.; Nelissen, P.; White, R. A. S.

Title
The outcome of combined urethropexy and colposuspension for management of bitches with urinary incontinence associated with urethral sphincter mechanism incompetence.

Source
Veterinary Surgery; 2014. 43(1):52-57. 48 ref.

Publisher
Wiley-Blackwell

Location of Publisher
Oxford

Country of Publication
UK

Abstract
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.

Publication Type
Journal article.
Background: Ectopic ureter is the most common cause of congenital urinary incontinence in dogs. Intramural ectopic ureter occurs when the ureter runs within the urinary bladder wall, while extramural ectopic ureter occurs when the distal ureter is not associated with the bladder wall. Ectopic ureters are diagnosed using different techniques and/or combinations of various imaging studies. Surgical correction is the standard treatment for dogs with an ectopic ureter, and these surgical techniques include neoureterostomy, ureteroneocystostomy, and nephroureterectomy. The aim of this report is to describe two cases of ectopic ureter successfully treated with surgery. Cases: In case 1, a 2-month-old female poodle, weighing 1.3 kg, with urinary incontinence since birth was presented to our veterinary service. Excretory urography revealed an ectopic ureter, and ureteroneocystostomy was performed. Abdominal ultrasonography performed 30 days after surgery revealed left renal pyelectasis and ureteral dilatation. Based on these findings, nephrectomy was performed. In case 2, a 3-month-old Golden Retriever, weighing 13.5 kg, with urinary incontinence since birth was brought to our veterinary service (in Brazil). Abdominal ultrasonography revealed a small left kidney and left ureteral dilation. Laparotomy was performed and revealed bilateral intramural ectopic ureters. Based on these findings, bilateral neoureterostomy was performed. 30 days after surgery, patient presented with urinary infection that was controlled with antibiotics. Both dogs were continent one year after treatment. Discussion: Imaging results of the urinary tract can be useful in diagnosing ectopic ureter. Image modalities used for detecting ectopic ureter include excretory urography, pneumocystography, vaginography, retrograde urethrography, ultrasonography, computed tomography, and magnetic resonance imaging. The difference between extra and intramural ureteral ectopia, in some cases, can only be determined during exploratory laparotomy. Surgical complications vary due to several factors, such as whether the ureteral ectopia is uni- or bilateral, intra or extramural, and also the surgical treatment used. Ureteroneocystostomy complications include hydroureret, hydronephrosis, cystitis, transient stenosis, anastomotic dehiscence, persistent dysuria, and loss of normal ureteric peristalsis. Complications of neoureterostomy include persistent dysuria, cystitis, and reflex dyssynergia. Recanalization is a possible cause of postoperative incontinence if the distal ureter is not completely resected. Unilateral hydronephrosis was observed in the first reported case, and nephroureterectomy was performed. A nephroureterectomy is indicated when severe pathologic findings are present, such as severe hydronephrosis, hydroureter, or renal dysplasia and when the contralateral kidney and ureter are functioning normally. In the second case, bacterial cystitis was diagnosed during the postoperative period and was controlled with antibiotic therapy. After surgery, 44-67% of dogs had persistent urinary incontinence. Although residual incontinence can occur after incomplete intramural ureteral remnant or ureteral trough resection, incontinence has also been reported after ureteral reimplantation and nephroureterectomy. Bilateral disease and concurrent urogenital abnormalities often contribute to treatment failure. Therapeutic success was reported in both cases without signs of urinary incontinence one year after surgery.
Accession Number
20143083897
Author
Davidson, A. P.; Westropp, J. L.
Title
Diagnosis and management of urinary ectopia. (Special Issue: Pediatrics.)
Source
Publisher
W.B. Saunders
Location of Publisher
Philadelphia
Country of Publication
USA
Abstract
Ectopic ureters are the most common cause of urinary incontinence in young dogs but should be considered as a differential in any incontinent dog for which the history is not known. Ectopic ureters can be diagnosed with excretory urography, fluoroscopic urethrography or ureterography, abdominal ultrasonography, cystoscopy, helical computed tomography, or a combination of these diagnostic procedures. Other congenital abnormalities can also occur in dogs with ectopic ureters, including renal agenesis or dysplasia, hydronephrosis, and/or hydroureter and vestibulovaginal anomalies; therefore, the entire urinary system must be evaluated with ultrasonography if cystoscopy is the only other diagnostic tool used before surgery. Novel surgical techniques and adjunctive medical management have improved the prognosis for dogs with urinary ectopia.

Publication Type
Journal article.

Accession Number
20143129110
Author
Pisu, M. C.; Veronesi, M. C.
Title
Effectiveness of deslorelin acetate subcutaneous implantation in a domestic queen with after-spaying urinary incontinence.
Source
Publisher
Sage Publications
Location of Publisher
Thousand Oaks
Country of Publication
USA
Abstract
A 2-year-old female ovariectomised Norwegian Forest cat with a history of post-spaying urinary incontinence was diagnosed with acquired urinary sphincter mechanism incompetence (USMI) after complete clinical and laboratory examination. Although there is no literature regarding the treatment of post-spaying USMI in cats, deslorelin acetate is successful in the treatment of post-spaying USMI in dogs. Deslorelin acetate implants have been shown previously to be effective for contraception and oestrus.
suppression in queens, and suppression of reproductive function in tomcats. Therefore, deslorelin acetate implant treatment was chosen for treatment of post-spaying USMI in this queen. Follow-up examinations were performed on days 8, 15 and 30 after deslorelin implant insertion. Urinary continence was restored about 25 days after implantation and maintained for at least 15 months, without treatment-related negative effects. In the present case report, the post-spaying urinary incontinence related to the acquired USMI was successfully treated with a deslorelin acetate implant. In addition, safe implantation was easy in cats and the single injection resulted in long-lasting efficacy. Further studies are needed to confirm the usefulness of deslorelin acetate treatment for post-spaying USMI in queens and to better delineate the duration of efficacy.

Publication Type
Journal article.

<55>
Accession Number
20143185214
Author
Byron, J. K.
Title
Drippy dogs: causes and treatment of urinary incontinence.
Source
Publisher
North American Veterinary Community (NAVC)
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.

<56>
Accession Number
20143159942
Author
Noel, S.; Hamaide, A.
Title
Surgical management of ectopic ureters: clinical outcome and prognostic factors for long-term continence.
Source
Publisher
British Small Animal Veterinary Association
Location of Publisher
Quedgeley
Country of Publication
UK
Publication Type
Conference paper.
Accession Number
20143159709
Author
Friend, E.
Title
Update on treatment for USMI (urinary sphincter mechanism incompetence).
Source
Publisher
British Small Animal Veterinary Association
Location of Publisher
Quedgeley
Country of Publication
UK
Publication Type
Conference paper.

Accession Number
20143159708
Author
Oechtering, G.
Title
Advances in ectopic ureter management in dogs.
Source
Publisher
British Small Animal Veterinary Association
Location of Publisher
Quedgeley
Country of Publication
UK
Publication Type
Conference paper.

Accession Number
20143250060
Author
Reichler, I. M.; Hubler, M.
Urinary incontinence (UI), defined as the involuntary loss of urine during the filling phase of the bladder (Abrams et al. 2002), is a commonly seen problem in veterinary practice. Urinary sphincter mechanism incompetence (USMI) after spaying is the most common micturition disorder, and its medical treatment is normally successful, even though the underlying pathophysiological mechanism is not fully understood. Hormonal changes inducing structural and functional alterations in the bladder, as well as in the urethra composition, are discussed. To manage incontinent patients successfully, possible underlying abnormalities besides USMI should be ruled out. In the majority of cases, history, physical examination and simple tests including urinalysis and urine bacterial culture lead to a presumed aetiology. If USMI is the most likely cause, then the advantage of further diagnostic tests should be discussed with the owner before starting a trial therapy with alpha-adrenergic drugs. Potential side effects of this therapy have to be mentioned even though they rarely occur. It is important to thoroughly evaluate the success of the initial treatment. Its failure should lead to further diagnostic testing. Specialized clinical assessments may provide an aetiological diagnosis, and this could serve as a basis for discussing further treatment options. Surgical procedures, which may in rare cases cause irreversible side effects, may be instituted. If incontinence reoccurs after initial treatment was successfully performed, the diagnostic work-up including urinalysis should always be repeated. As results of urinalysis did not correlate well with results of bacterial culture, a urine culture is recommended (Comer and Ling 1981). Cystocentesis is the preferred method of urine collection (Bartges 2004). Equivocal results of quantitative cultures of urine samples obtained during midstream voiding or by catheterization require repeat collection by cystocentesis (Comer and Ling 1981).
duplicate ureter into the proximal urethra. Ureteroneocystostomy was performed, which improved but did not resolve urinary continence. To the authors’ knowledge, this report details only the second reported case of duplicated ectopic ureter in the dog and the first documenting surgical reimplantation; thus, double-system ureteral ectopia should be considered as a possible differential diagnosis for urinary incontinence.

Publication Type
Journal article.

<61>
Accession Number
20143331938
Author
Grant, D. C.; Troy, G. C.
Title
Recurrent urethral fibroepithelial polyps in a golden retriever.
Source
Publisher
American Animal Hospital Association
Location of Publisher
Denver
Country of Publication
USA
Abstract
A 2 yr old castrated male golden retriever was referred multiple times over a period of 7.5 yr for stranguria, pollakiuria, urinary incontinence and urinary outflow obstructions due to urethral polyps. Diagnostic imaging modalities used to identify polyps included abdominal ultrasound, excretory urography, double-contrast retrograde urethrocystograms, and urethrocystoscopy, which revealed multiple filling defects within the proximal and prostatic urethra. Multiple cystotomies and endourologic procedures were performed to remove the multiple fibroepithelial polyps within the proximal and prostatic urethra. Urinary incontinence resulted from treatments, but did respond to phenylpropanolamine. Medical treatment consisted of a nonsteroidal anti-inflammatory drug, which appeared to decrease the recurrence of the polyps over time. Urethral polyps are an uncommon cause of urinary outflow obstruction and do not usually recur after removal. This case illustrates an uncommon clinical presentation and the difficulties encountered in treatment over an expanded time frame.
Publication Type
Journal article.

<62>
Accession Number
20143354873
Author
Hill, T. L.; Berent, A. C.; Weisse, C. W.
Title
Evaluation of urethral stent placement for benign urethral obstructions in dogs.
Source
Journal of Veterinary Internal Medicine; 2014. 28(5):1384-1390. 13 ref.
Publisher
Wiley-Blackwell
Background: Benign urethral obstructions (BUO) in dogs result in substantial morbidity because of challenges with conventional therapies. Treatment of malignant urethral obstructions with intraluminal urethral stents is reported to successfully relieve obstructions. Hypothesis/Objectives: To evaluate the efficacy and outcome of urethral stent placement for treatment of BUO in dogs. Animals: Eleven client-owned animals with urethral stents placed for treatment of BUO. Methods: Retrospective study in which medical records were reviewed in dogs diagnosed with BUO and treated with a metallic urethral stent. Data collected included signalment, cause of benign obstruction, procedure time, size and type of stent, complications, and short- and long-term outcome. Results: Eleven dogs with 15 urethral stents were included. Intraluminal urethral stent(s) relieved the obstructions in all dogs. Four dogs had 2 stents placed in separate procedures because of incomplete patency after treatment (n=1), inadvertent compression of the stent (n=1), or tissue ingrowth through the stent (n=2). The median continence score after stent placement was 10 of 10 (range 3-10) with 6 dogs being continent, 3 mildly incontinent, and 1 each moderately and severely incontinent. All owners considered their dog to have an excellent long-term clinical outcome with long-term urethral patency. The median follow-up time was 24 months (range 4-48). Conclusions and Clinical Importance: Urethral stents appear to be an effective treatment for benign urinary obstructions. Moderate to severe incontinence developed in a minority (12.5%) of dogs. Stents relieved obstructions in all dogs with an excellent long-term outcome.

Accession Number
20143365874

Author
Sousa, V. R. de; Silva, L. M. C.; Azevedo, G. M.; Silva, F. L.; Bezerra, F. B.; Sousa, J. M. de

Title
Ureteronefrectomy for treatment of unilateral hydronephrosis secondary to ascending urolith in dog - case report. [Portuguese]

Source
Acta Veterinaria Brasilica; 2013. 7(Suppl. 1):130-132. 8 ref.

Publisher
Universidade Federal Rural do Semi-Arido (UFERSA)

Location of Publisher
Mossoro

Country of Publication
Brazil

Abstract
- A mixed breed dog with urinary incontinence and recurrent cystitis since puppy was treated at the Veterinary Hospital of UFPI. After clinical evaluation and laboratory tests, and ultrasonography was performed radiography, where she was diagnosed unilateral hydronephrosis, uroliths in the bladder and urethra and prostate gland enlargement. In hematology, the azotemia was found. After stabilization, he was referred for surgery, which was performed orchiectomy and ureteronefrectomia. The animal had a good recovery after surgery, with clinical improvement and good adaptation to special diet.
A 16-year-old female Shih-Tzu, weighing 5 kg, presented with clinical symptoms of abdominal distension and urinary and fecal incontinence. Abdominal palpation detected a large mass. According to the radiographic findings, the bladder had been moved to the umbilicus by the mass and a large abdominal mass was confirmed in the lower abdominal area. Ultrasonography indentified a large heterogeneous mass with heterogeneous parenchyma and a focal anechoic area in the lower abdominal area. The complete blood count abnormalities suggested thrombocytosis and mild neutrophilia, and the serum chemistry indicated an elevated alkaline phosphatase value. During laparotomy, a firm mass that measured 10.5x9.6 cm was found between the uterine cervix and urinary bladder. The urethra was embedded in the mass. A diagnosis of leiomyosarcoma was established based on histopathology and histochemistry. One week after surgery, urinary retention symptoms that did not appear to be related to mechanical obstruction presented suddenly, but they did not respond to several drug treatments, thus long-term conservative therapy was adopted. The urinary symptoms disappeared on day 27 and the patient started to void large quantities of urine in a smooth and frequent manner. This case report describes the serial changes in the patient's status and the response after surgical remove of the urethra embedding leiomyosarcoma.
Abstract
The article describes diagnostic and therapeutic approach in a male Portuguese Water Dog affected by ectopic ureter. The main clinical problem was an urine incontinence. Diagnosis was based on the contrast CT study, ultrasonography and flexible endoscopy of the urinary tract. The surgical management was the therapy of choice in this case. The ureteral neostoma in the trigonum vesicae was performed Patient is recently few months after the surgical treatment and without any clinical problem Ectopic ureters are uncommonly reported in male dogs and may remain undetected if urinary incontinence is not present due to specific anatomy of a male urethra. Ureteral ectopia is a result of faulty embryonic development and is commonly associated with some other anomalies like hydroureter or hydrenephrosis.

Publication Type
Journal article.

Accession Number
20133017538
Author
Grauer, G. F.
Title
Canine urinary tract infections.
Source
Publisher
Educational Concepts LLC
Location of Publisher
Tulsa
Country of Publication
USA
Abstract
A case of urinary tract infection (UTI) caused or complicated by probable urethral sphincter mechanism incompetence (USMI), abnormal vulvar anatomy and subsequent perivulvar inflammation in an 8-year-old, spayed, black, Labrador Retriever was described [USA, date not given]. The dog presented with urinary incontinence of several months’ duration. Physical examination, including rectal examination and palpation of the urinary bladder, was unremarkable. Complete blood count and biochemistry profile were within normal limits. Urinalysis obtained by cystocentesis revealed a cloudy appearance with pH of 7.5, urine specific gravity of 1.037, 2+ proteinuria, 25 to 30 RBCs/hpf, 10 to 15 WBCs/hpf, 25 struvite crystals/hpf and Gram negative rods. Urine culture yielded Escherichia coli (>1000 cfu/ml) sensitive to amoxicillin-clavulanic acid. Abnormal vulvar anatomy and USMI resulted in a moist perivulvar dermatitis and increased the number of pathogenic bacteria at the vulvar opening. Excessive perivulvar skinfolds likely occurred secondary to weight gain. The dog was treated with amoxicillin-clavulanic acid at 13.75 mg/kg PO q12h for 4 weeks, indefinite administration of phenylpropanolamine at 1.5 mg/kg PO q12h for sphincter incompetence, local treatment (astringents, hot-packing, topical antibiotics) and an Elizabethan collar to prevent licking of the perivulvar dermatitis. Improvement was observed after treatment, however reinfection occurred 2 months later. Urine culture again yielded E. coli but with a different sensitivity profile (sensitive to fluoroquinolones). Phenylpropanolamine and local treatment of the perivulvar dermatitis helped improve the host defence mechanisms. Once the recurrent UTI had been effectively treated (follow-up urine cultures had no growth), long-term cranberry extract (CE) treatment was initiated to help support the compromised host defence mechanisms. Recheck urinalyses were performed quarterly.
Publication Type
Journal article.
Objective: To evaluate the safety and efficacy of an adjustable artificial urethral sphincter (AUS) in a population of dogs with acquired or congenital urinary incontinence. Study Design: Case series. Animals: Dogs (n=27) with naturally occurring urinary incontinence. Methods: Medical records (January 2009 - July 2011) of dogs that had AUS implantation for treatment of urinary incontinence were reviewed and owners were interviewed by telephone to assess outcome. Continence was scored using a previously established analogue scale, with 1 representing constant leakage and 10 representing complete continence. Results: Twenty-four female and 3 male dogs had AUS implantation. Causes of incontinence included urethral sphincter mechanism incompetence (n=18), continued incontinence after ectopic ureter repair (6), and pelvic bladder (3). Medical therapy was unsuccessful in 25 dogs before AUS implantation. Surgery was performed without major complications in 25 dogs; 2 developed partial urethral obstruction after 5 and 9 months. Median (interquartile range) follow-up for the other 25 dogs was 12.5 (6-19) months. Continence scores were significantly improved (P<.0001) between the preoperative period (2) and last follow-up (9). Overall, 22 owners described themselves as very satisfied, 2 as satisfied, and 3 as unsatisfied. Conclusions: AUS implantation was successful in restoring continence in male and female dogs with both congenital and acquired urinary incontinence. Dogs that develop partial urethral obstruction may require AUS removal.

Publication Type
Journal article.
Abstract
Objective: To evaluate the outcome following urethral stent placement for the palliative treatment of obstructive carcinoma of the urethra in dogs. Design: Retrospective case series. Animals: 42 dogs with obstructive carcinoma of the urethra. Procedures: Medical records for dogs in which a self-expanding metallic stent (SEMS) was used for the treatment of obstructive carcinoma of the urethra were reviewed. Signalment, diagnostic findings, clinical signs before and after SEMS placement, and patient outcome were analyzed. Fluoroscopic images were evaluated to determine the effects of stent size, obstruction length, tumor length, and urethral length and width on the incidence of incontinence or stranguria. Results: Resolution of urinary tract obstruction was achieved in 41 of 42 (97.6%) dogs. After SEMS placement, 6 of 23 male and 5 of 19 female dogs developed severe incontinence, and 1 of 23 male and 1 of 17 female dogs developed stranguria. Stent length, diameter, and location were not associated with incidence of incontinence or stranguria. Median survival time after SEMS placement was 78 days (range, 7 to 536 days). Treatment with NSAIDs before and chemotherapeutics after SEMS placement increased median survival time to 251 days (range, 8 to 536 days). Conclusions and Clinical Relevance: Urethral SEMS placement was an effective palliative treatment for dogs with obstructive carcinoma of the urethra; however, severe incontinence subsequently developed in 11 of 42 (26%) treated dogs. Adjunctive treatment of affected dogs with NSAIDs and chemotherapeutics significantly increased the median survival time.

Publication Type
Journal article.

<69>
Accession Number
20133075290
Author
Yoon HunYoung; Roh MiYoung; Jeong SoonWuk
Title
Surgical correction of a vesicourachal diverticulum in a cat.
Source
Publisher
Korean Society of Veterinary Clinics
Location of Publisher
Seoul
Country of Publication
Korea Republic
Abstract
A 4-year-old female Korean short hair cat weighing 6.5 kg presented for evaluation of urinary incontinence and stranguria. On physical examination, stranguria was observed concurrently with urinary bladder distention. Abdominal radiographs revealed two small uroliths in the urinary bladder. Urinary bladder sludge was detected on abdominal ultrasound. Urine analysis indicated hematuria and bacteriuria. The cat was treated with a 4-week course of a combination of antibiotics and urinary bladder irrigation using normal saline; however, response to treatment was minimal. Excretory urography was performed to identify a congenital disorder. A small diverticulum, located to the urinary bladder apex, was identified. A tentative diagnosis of a vesicourachal diverticulum was made. Surgical exploration of the abdomen was performed and a triangular-shaped diverticulum was apparent at the urinary bladder apex. Cystotomy was performed to remove two small uroliths. Partial cystectomy was then performed for diverticulectomy. Approximately 2 cm diameter of a part of the apex was removed. Normal urination was regained 5 days postoperatively. The follow-up was completed by physical examination 2 years after surgery. There was no evidence of stranguria and urinary incontinence.
Publication Type
Journal article.
A 5-year old male Labrador was presented for urinary incontinence with continuous drop loss for 2 years, without voiding difficulties. Incontinence due to defective storage was explored. Suspected conditions included sphincter incompetence, a lack of compliance or bladder capacity, or ectopic ureter. Ultrasonography of the urinary tract revealed bilateral ectopic ureters, the uro-dynamic profile being sphincter incompetence. Surgical treatment was undertaken and continence was restored in the dog. Ectopic ureter is rarely described in male dogs. Other conditions are often associated, such as sphincter incompetence, which can affect surgical success.

Objective: To determine the prevalence of urinary incontinence in spayed female dogs and categorize affected dogs by age at time of ovariohysterectomy, number of litters prior to ovariohysterectomy, body weight, treatment of affected dogs, and severity of incontinence and to determine associations among these variables. Design: Retrospective case series. Animals: 566 ovariohysterectomized dogs. Procedures: An attempt was made to contact owners of 912 dogs ovariohysterectomized between January 2003 and January 2008 to discuss presence or absence of urinary incontinence. The actual number of responders was
Those owners with incontinent pets received a questionnaire further assessing degree of incontinence, diagnostic testing, treatment, and history. Results: The prevalence of acquired urinary incontinence was determined to be 5.12% (29/566 dogs) on the basis of results of phone surveys and questionnaires. There was no significant difference in the age at time of ovariohysterectomy between incontinent and continent groups. A significant association was found between body weight and incontinence, with incontinence rates higher among larger (>=15 kg [33.1 lb]) dogs. Larger dogs were approximately 7 times as likely (OR, 7.2 [95% confidence interval, 2.5 to 21.1]) to develop acquired urinary incontinence, compared with small dogs (<15 kg). Conclusions and Clinical Relevance: Although acquired urinary incontinence in female dogs is known to be associated with ovariohysterectomy, the prevalence in this study was low.

**Publication Type**
Journal article.

---

**Title**
Hormone-responsive urinary incontinence in a female dog treated effectively with oral oestradiol preparation. [Japanese]

**Source**

**Publisher**
Japan Veterinary Medical Association

---

An 18-month-old, neutered female West Highland White Terrier was presented for urinary incontinence during sleep. Urinary incontinence was observed 8 months after neutering. There were no significant findings on clinical examinations. Because hormone-responsive urinary incontinence was diagnosed presumptively based on the information provided by the owner, oral oestradiol therapy was started. As a result of the measurement of serum oestradiol concentration at the initial presentation, the level of serum oestradiol was lower than found in healthy dogs. After oestradiol was orally administered a total of three times, the dog has been asymptomatic for more than two years. Mild dermatitis appeared temporarily as a side effect. At 753 days after the initial presentation, the dog was generally in good condition without any sign of recurrence. The result of this case suggested that oral oestradiol therapy for hormone-responsive urinary incontinence could replace conventional medical therapy in terms of treatment effect, reduction of frequency of administration and side effects.

**Publication Type**
Journal article.

---

**Title**
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**Source**

**Publisher**
Japan Veterinary Medical Association

---

An 18-month-old, neutered female West Highland White Terrier was presented for urinary incontinence during sleep. Urinary incontinence was observed 8 months after neutering. There were no significant findings on clinical examinations. Because hormone-responsive urinary incontinence was diagnosed presumptively based on the information provided by the owner, oral oestradiol therapy was started. As a result of the measurement of serum oestradiol concentration at the initial presentation, the level of serum oestradiol was lower than found in healthy dogs. After oestradiol was orally administered a total of three times, the dog has been asymptomatic for more than two years. Mild dermatitis appeared temporarily as a side effect. At 753 days after the initial presentation, the dog was generally in good condition without any sign of recurrence. The result of this case suggested that oral oestradiol therapy for hormone-responsive urinary incontinence could replace conventional medical therapy in terms of treatment effect, reduction of frequency of administration and side effects.

**Publication Type**
Journal article.
Use of a percutaneously controlled urethral hydraulic occluder for treatment of refractory urinary incontinence in 18 female dogs.

Objective: To evaluate the efficacy and safety of a percutaneously controlled urethral hydraulic occluder (HO) device for the treatment of refractory urinary incontinence (RUI) in female dogs with various urogenital anomalies. Study Design: Case series. Animals: Female dogs with RUI (n=18). Methods: Retrospective evaluation of dogs after a silicone ring (HO) was surgically placed around the proximal urethra. The ring was connected to a subcutaneous injection port with actuating tubing. Residual incontinence was treated with percutaneous infusion of sterile saline into the device to provide extraluminal urethral compression. Dogs were assessed for continence (owner-assessed 10-point continence scale) and complications at standard time points. Results: All 18 dogs had significantly improved continence scores (P<.001) after HO placement (median and mean score pre-HO=2.8 and 3.3; post-HO=10 and 8.9, respectively) with a median follow-up time of 32 months. "Functional" continence (score >=9) was achieved in 67% of dogs after HO placement, though only 13/18 clients were compliant with inflations. Of dogs belonging to compliant owners, 12 (92%) had a functional continence score. Six dogs (33%) did not require inflation to achieve continence. Urethral obstruction occurred as a complication in 3 dogs. Conclusions: Use of an HO device was an effective long-term treatment for RUI when traditional options failed. The technique was associated with some complications, and these risks should be considered before use.

Fixing urinary incontinence in dogs - what are your options?

Objective: To evaluate the efficacy and safety of a percutaneously controlled urethral hydraulic occluder (HO) device for the treatment of refractory urinary incontinence (RUI) in female dogs with various urogenital anomalies. Study Design: Case series. Animals: Female dogs with RUI (n=18). Methods: Retrospective evaluation of dogs after a silicone ring (HO) was surgically placed around the proximal urethra. The ring was connected to a subcutaneous injection port with actuating tubing. Residual incontinence was treated with percutaneous infusion of sterile saline into the device to provide extraluminal urethral compression. Dogs were assessed for continence (owner-assessed 10-point continence scale) and complications at standard time points. Results: All 18 dogs had significantly improved continence scores (P<.001) after HO placement (median and mean score pre-HO=2.8 and 3.3; post-HO=10 and 8.9, respectively) with a median follow-up time of 32 months. "Functional" continence (score >=9) was achieved in 67% of dogs after HO placement, though only 13/18 clients were compliant with inflations. Of dogs belonging to compliant owners, 12 (92%) had a functional continence score. Six dogs (33%) did not require inflation to achieve continence. Urethral obstruction occurred as a complication in 3 dogs. Conclusions: Use of an HO device was an effective long-term treatment for RUI when traditional options failed. The technique was associated with some complications, and these risks should be considered before use.
Short-term outcome following concurrent surgical treatment of ureteral ectopia and intrapelvic urinary bladder in nine neutered bitches.

This article discusses the successful surgical treatment of ureteral ectopia with concurrent intrapelvic urinary bladder in nine neutered bitches. The urinary incontinence associated with the congenital defect completely resolved after the surgical operation.

Treatment strategies for urinary sphincter mechanism incompetence.

This article discusses treatment strategies for urinary sphincter mechanism incompetence.
Benefits and risks of estriol in a sterilized bitch with urinary incontinence. [French]
Source
Publisher
Editions du Point Veterinaire
Location of Publisher
Maisons-Alfort
Country of Publication
France
Abstract
The clinical signs, diagnosis and the advantages and disadvantages of treatment with estriol (Incurin) vs. phenylpropanolamine (Propalin) in a dog in France [date not given] with urinary incontinence are described.
Publication Type
Journal article.

Diagnostics and surgical solution of bilateral ectopic ureter in a five-year-old bitch. [Czech]
Source
Publisher
Profi Press, s.r.o.
Location of Publisher
Praha 2
Country of Publication
Czech Republic
Abstract
The paper describes an unusual case of a five-year-old female Chinese crested dog, in which a bilateral ectopic ureter was diagnosed with the use of ultrasound, radiography and endoscopy. Also a bilateral chronic pyelonephritis with unilateral hydroureter was found in this patient. Scintigraphy showed mild reduction in GFR in the right kidney and a marked dysfunction of the left kidney. An intravesicular resection of the right intramural urether was performed with a novel technique using diode laser. A neostoma was created in the trigonum following that procedure. The left urether was transposed end-to-site to the craniolateral bladder wall. Shortly after surgical treatment the urinary incontinence disappeared. There was a marked reduction in size of the left hydrourether, also a reduction of pyelectasia in both kidneys, especially in the right kidney. A follow-up sonographic exam, excretion urography and second look cystoscopy proved bilaterally functional urethers. The authors discuss the prevalence, ethiology and treatment options in patients with ectopic urethers in general in dogs and cats.
Publication Type
Journal article.

Diagnostics and surgical solution of bilateral ectopic ureter in a five-year-old bitch. [Czech]
Source
Publisher
Profi Press, s.r.o.
Location of Publisher
Praha 2
Country of Publication
Czech Republic
Abstract
The paper describes an unusual case of a five-year-old female Chinese crested dog, in which a bilateral ectopic ureter was diagnosed with the use of ultrasound, radiography and endoscopy. Also a bilateral chronic pyelonephritis with unilateral hydroureter was found in this patient. Scintigraphy showed mild reduction in GFR in the right kidney and a marked dysfunction of the left kidney. An intravesicular resection of the right intramural urether was performed with a novel technique using diode laser. A neostoma was created in the trigonum following that procedure. The left urether was transposed end-to-site to the craniolateral bladder wall. Shortly after surgical treatment the urinary incontinence disappeared. There was a marked reduction in size of the left hydrourether, also a reduction of pyelectasia in both kidneys, especially in the right kidney. A follow-up sonographic exam, excretion urography and second look cystoscopy proved bilaterally functional urethers. The authors discuss the prevalence, ethiology and treatment options in patients with ectopic urethers in general in dogs and cats.
Publication Type
Journal article.
A 2-year-old male mixed dog was referred to us for further evaluation and treatment of a 4-week-history of oliguria and abdominal distension after a surgical repair of urethral injury. To relieve the urethral stricture, we placed a self-expanding aortic stent graft extension with a partial coverage with an expanded polytetrafluoroethylene (ePTFE). After the placement of the stent, the dog presented with a normal urinary voiding, despite the presence of urinary incontinence. The current case indicates that the ePTFE-covered, self-expanding ASGE is an effective intervention for the treatment of severe urethral stricture in the dog.
This book provides a comprehensive review of the common and not so common causes of urinary incontinence in both male and female dogs. Particular emphasis is placed on the common causes of urinary incontinence in puppies and adult animals and on the investigations and treatments that are available and what the response to therapy might be. It should proved invaluable to any pet owner with dogs of this condition, struggling to understand this complex range of conditions. It will help the client prepare what questions to ask and the needed information on the treatments given. The text will also prove useful to veterinary nurses and general practitioners who wish to review this topic. The author's vast experience of investigating and managing incontinent dogs shines through and the text provides a balanced commentary on the subject.
The aim of this study was to evaluate the efficacy and long term safety of once daily administration of phenylpropanolamine (PPA) in the treatment of urethral sphincter mechanism incompetence (USMI) in spayed bitches in comparison to three times daily administrations. For this purpose, 22 spayed bitches suffering from USMI received either PPA at the dose rate of 1.5 mg/kg, body weight (BW) once daily (group I, n=11) or 1.5 mg/kg three times daily (group II, n=11) by oral administration. Clinical efficacy was determined by using a scoring system based on analysing the frequency and the amount of unconscious urination on d 7, 14 and 28. There was no significant difference (p>0.05) between the clinical response observed on d 7, 14 and 28 of treatment in group I and II. Eight dogs (72.7%) in each group were continent on d 28. The side effects observed were mild and transient. Phenylpropanolamine therapy was continued in 13 dogs that became continent after 28 d and the dogs were followed up for 12 months. None of the dogs showed symptoms of urinary incontinence except for 2 bitches that became refractory to PPA treatment in group II. Phenylpropanolamine was combined with estriol for 14 d (1 mg/dog PO) in dogs in which PPA therapy was inefficient or unsatisfactory on d 28 and in dogs that became refractory to PPA treatment. A total of 8 dogs were treated with estriol PPA combination. Five (62.5%) bitches were continent on 14th d of estriol PPA combination treatment. In one bitch (12.5%) urinary incontinence improved. In conclusion, once daily administration of PPA at a dose of 1.5 mg/kg, BW is effective in treatment of USMI in spayed bitches and it offers a cheap and convenient treatment option. In addition, recurrence of incontinence can be observed during long term administration of PPA and combination of PPA with estriol is effective in dogs in which PPA therapy alone is unsatisfactory and in dogs that become refractory to PPA treatment.

Publication Type
Journal article.

<83>
Accession Number
20123241377
Author
Byron, J. K.
Title
Drippy dogs: causes and treatment of urinary incontinence.
Source
Publisher
The North American Veterinary Conference
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.

<84>
Accession Number
20123241223
Author
Pressler, B. M.
Title
Management of incontinence: beyond PPA.
Clinical features and risk factors for development of urinary tract infections in cats.

The clinical and diagnostic features of 155 cats with urinary tract infection (UTI) and 186 controls with negative urine culture/s were characterized retrospectively (signalment, clinical signs, urinalysis, urine culture, concurrent diseases, lower urinary tract diagnostic/therapeutic procedures). Multivariable logistic regression was used to identify risk factors associated with UTI. Cats of all ages were affected by UTI with no sex/breed predisposition. Lower urinary tract signs were absent in 35.5% of cats with UTI. Pyuria and bacteriuria had sensitivities of 52.9% and 72.9%, and specificities of 85.5% and 67.7% for detection of UTI, respectively. Risk factors significantly associated with increased odds of UTI were urinary incontinence [odds ratio (OR)=10.78, P=0.0331], transurethral procedures (OR=8.37, P<0.0001), urogenital surgery (OR=6.03, P=0.0385), gastrointestinal disease (OR=2.62, P=0.0331), decreased body weight (OR=0.81, P=0.0259) and decreased urine specific gravity (OR=0.78, P=0.0055). Whilst not independently significant, renal disease and lower urinary tract anatomic abnormalities improved statistical model performance and contributed to UTI.
Canine urinary incontinence post-neutering: a review of associated factors, pathophysiology and treatment options.

Source

Publisher
Faculty of Veterinary Science, Chulalongkorn University

Abstract
Canine urinary incontinence is commonly encountered in small animal veterinary practice with high prevalence in spayed female dogs. The diagnosis of neutering-induced urinary incontinence is usually based on clinical signs, history and elimination of other possible diagnoses. The proposed predispositions to incontinence that follow neutering including gender, breed, body weight, obesity, tail docking, spaying technique (ovariectomy and ovariohysterectomy) and morphology of the LUT, e.g. the position of neck of the bladder and urethral length, have all been investigated. At present, the exact underlying mechanisms are not fully understood. However, it is widely agreed that the condition is multi-factorial and hormone-associated. The role of gonadotrophin LH and FSH in the physiology and/or pathology of the canine lower urinary tract function and its relationship to the development of urinary incontinence post-spay has recently been suggested and remains an interesting subject for further research. Medical approach is the mainstay of treatment for affected animals with surgical correction being considered when medical treatment fails to restore continence or patient is unsuitable for long-term medication. Medical and surgical options in the treatment of post-neutering urinary incontinence are reviewed.

Transobturator vaginal tape inside out for treatment of urethral sphincter mechanism incompetence: preliminary results in 7 female dogs.

Source
Veterinary Surgery; 2010. 39(8):969-979. 64 ref.

Abstract
Objectives: To evaluate the clinical efficacy of the transobturator vaginal tape inside-out (TVT-O) in incontinent female dogs affected with urethral sphincter mechanism incompetence (USMI) and to determine its urodynamic and morphologic effects. Study Design: Case series. Animals: Incontinent spayed female dogs (n=7). Methods: TVT-O tape was inserted in 7 incontinent female dogs diagnosed with USMI. Urethral pressure profilometry (UPP) and vaginourethrograms were performed preoperatively, and 1 and 3 months postoperatively. Clinical efficacy of the technique was evaluated and complications reported. Follow-up information was evaluated by a telephone questionnaire. Results: All dogs were continent immediately after
The procedure. Incontinence recurred 2 months after surgery in 1 dog and was treated by phenylpropanolamine administration. At mean follow-up time of 11.3 months, 6 of 7 dogs were continent. An iatrogenic urethral tear occurred intraoperatively in 1 dog. No postoperative complications were encountered. The postoperative UPPs showed significantly increased maximal urethral closure pressure and integrated pressure. Postoperative vaginourethrograms were unremarkable. The surgical procedure did not modify the location of the urinary bladder neck in dogs with a "pelvic urinary bladder" preoperatively. Conclusions: TVT-O was efficient in maintaining short term continence in 6 of 7 dogs affected with USMI.
A case-control study was conducted between December 2005 and August 2006 in London (1) to estimate the strength of association between early ovariohysterectomy (spaying) and urinary incontinence (sphincter mechanism incompetence), (2) to identify other risk factors for incontinence, and (3) to assess any implications of incontinence on the owner-pet relationship. Cases were defined as bitches that developed incontinence after spaying and were treated, and the controls comprised continent spayed bitches. Questionnaires from 202 cases were compared to 168 controls, and analysed using multivariable logistic regression. No significant association between early spaying and incontinence was detected although there was a tendency that early spayed bitches were less likely to be incontinent. Docked bitches were 3.8 times more likely to be incontinent than undocked bitches; bitches weighing over 10 kg were 3.7 times more likely to be incontinent than smaller dogs; and older bitches were more likely to be incontinent (OR=3.1-23.8) than younger animals. Some owners were found to have a negative attitude towards incontinence.
Factors that predict postoperative continence and incontinence were evaluated in 33 female dogs with surgically corrected ectopic ureters. The current study found that intramural or extramural, left- or right-sided, and unilateral or bilateral ectopic ureters were not significant factors influencing postoperative incontinence in affected dogs. The presence of either hydroureter or urinary tract infection was also not significantly associated with postoperative incontinence. Dogs with ectopic ureters that were incontinent postsurgically tended to remain unresolved.

Publication Type
Journal article.
USA
Publication Type
Conference paper.

An 8-year-old spayed female, Yorkshire terrier dog was presented with a urinary incontinence. Unaware urine dribbling during sleeping was observed eight months after spaying. Polyuria and polydipsia were also reported. Physical examination revealed obesity and hypertension. Characteristic laboratory findings in this dog were polycythemia, hyperlipidemia and elevated hepatic enzyme. Other causes of the urinary incontinence were ruled out through further diagnostic tests and spay-related urethral sphincter mechanism incompetence (USMI) was made as a presumptive diagnosis. In addition, the dog was also diagnosed with pituitary-dependent hyperadrenocorticism. Both conditions can cause urinary incontinence in dogs; therefore, definite diagnosis was made through a therapeutic approach. The synthetic estrogen, diethylstilbesterol, was initially administered and successfully managed the urinary incontinence in this dog. To the best of the author's knowledge, this is the first case report describing the clinical and laboratory features of spay-related USMI concurrent with hyperadrenocorticism and treatment outcomes in our country.
A 4-month-old intact male domestic shorthair cat was evaluated for urinary outflow obstruction after several weeks of medical management for traumatic urethral rupture. Positive-contrast retrograde urethrography and anterograde cystoscopy performed 4 weeks after the initial urethral injury confirmed a stricture approximately 1 cm distal to the bladder trigone at the site of the initial urethral tear. A self-expanding metallic urethral stent (SEMS) was placed under fluoroscopic guidance to relieve the urethral stricture and re-establish luminal patency. After stent placement, the cat was able to void urine normally with minimal urinary incontinence noted. This resolved several months post-stent placement. No known clinical complications persisted other than mild intermittent hematuria.

Country of Publication
UK

Abstract

A 4-month-old intact male domestic shorthair cat was evaluated for urinary outflow obstruction after several weeks of medical management for traumatic urethral rupture. Positive-contrast retrograde urethrography and anterograde cystoscopy performed 4 weeks after the initial urethral injury confirmed a stricture approximately 1 cm distal to the bladder trigone at the site of the initial urethral tear. A self-expanding metallic urethral stent (SEMS) was placed under fluoroscopic guidance to relieve the urethral stricture and re-establish luminal patency. After stent placement, the cat was able to void urine normally with minimal urinary incontinence noted. This resolved several months post-stent placement. No known clinical complications persisted other than mild intermittent hematuria.

Publication Type
Journal article.

Accession Number
20113275487
Author
Cesare, T. S.; Ferrari, S.
Title
Urinary incontinence in dogs: a revision. [Portuguese]
Source
A Hora Veterinaria; 2011. 31(182):56-59, 7. 24 ref.
Publisher
A Hora Veterinaria
Location of Publisher
Porto Alegre
Country of Publication
Brazil
Abstract

The urinary incontinence (UI) is a disease resultant of a congenital or acquired problem. Amongst the acquired problems, it is distinguished the UI consequent to the castration of dogs, when it has reduction of steroid hormones and increase of the Gonadotropins, beyond the functional alteration of the urethral sphincter. In 75% of the castrated dogs, the first signals appears in the first 3 years after the surgery and the treatment is carried traditionally through the use of Sympathomimetic drugs and/or estrogens. Currently the use of GnRH analogous as subcutaneous implant has been studied in the treatment of the disease.

Publication Type
Journal article.

Accession Number
20113331831
Author
Byron, J. K.; Chew, D. J.; McLoughlin, M. L.
Title
Retrospective evaluation of urethral bovine cross-linked collagen implantation for treatment of urinary incontinence in female dogs.
Source
Background: Transurethral collagen injections are an alternative treatment for canine urinary incontinence. There is controversy regarding the long-term effectiveness of collagen and the impact urethral coaptation and injection site have on outcome. Hypothesis/Objectives: To evaluate outcome and client satisfaction after urethral collagen injections, and correlation between degree of urethral coaptation and collagen placement with outcome. Animals: Thirty-six procedures on 31 dogs, 10 with ureteral ectopia. Methods: Retrospective review of records and video evaluation of injection procedures. Follow-up communication with owners was performed between 1 and 56 months after bovine cross-linked collagen implantation to evaluate duration of continence, need for additional medical therapy, and owner satisfaction. Continence score was evaluated before and after the procedure, and after additional medical therapy, if needed. Injection location and degree of urethral coaptation was assessed with respect to duration of continence. Results: Dogs had a significant increase in continence score after the procedure. Mean (SD) duration of continence in dogs without addition of medication was 16.4 (15.2) months, and 5.2 (4.3) months in dogs needing additional medical therapy. No significant difference was found with respect to degree of coaptation. Median client satisfaction with the procedure was 100%. Conclusions and Clinical Importance: Transurethral collagen implantation may be a viable option for treatment of female dogs with urethral sphincter mechanism incompetence, particularly after medical failure. Duration and degree of improvement are variable. Client satisfaction was excellent despite lack of complete continence in some dogs, and highlights the importance of discussing outcome expectations with owners.

Vaginal resection and anastomosis for treatment of vestibulovaginal stenosis in 4 dogs with recurrent urinary tract infections.

Case Description - 4 dogs were evaluated because of recurrent urinary tract infections. Clinical Findings - All dogs had recurrent urinary tract infections and similar clinical signs; 3 dogs had urinary incontinence. Digital vaginal examination revealed vestibulovaginal stenosis in all dogs, which was confirmed by results of contrast vaginourethrography. From image measurements, the vestibulovaginal ratio (ratio of the height of the vestibulovaginal junction to the maximum height of the vagina on a lateral vaginourethrogram) was calculated for each dog. Three dogs had severe stenosis (vestibulovaginal ratio, <0.20; severe stenosis is
defined as a vestibulovaginal ratio <0.20), whereas the fourth dog had moderate stenosis (vestibulovaginal ratio, 0.24; ratio range for moderate stenosis is 0.20 to 0.25). Treatment and Outcome - All dogs were anesthetized for surgical correction of the vestibulovaginal stenosis. Vaginal resection and anastomosis of the stenosis was performed in all 4 dogs, with 1 dog also undergoing episiotomy. Complete resolution of clinical signs was apparent in 3 dogs; 1 dog had postoperative complications including pollakiuria and stranguria, which resulted in rectal and vaginal prolapse. This dog underwent ovariohysterectomy, after which clinical signs resolved. All dogs had resolution of urinary tract infections at the time of follow-up (6 to 8 months after surgery). Clinical Relevance - Resection and anastomosis may resolve recurrent urinary tract infections in dogs with severe or moderate vestibulovaginal stenosis. Episiotomy was not necessary for success of surgical treatment, and overall, that procedure increased morbidity, the severity of intraoperative hemorrhage, and duration of surgery.

Publication Type
Journal article.

<99>
Accession Number
2011380059
Author
Gogny, A.
Title
Persistence of the hymen and urinary incontinence.
Source
Publisher
Point Veterinaire Italie s.r.l.
Location of Publisher
Milano
Country of Publication
Italy
Abstract
Persistence of the hymen and urinary incontinence were reported in an 8-year-old American Bulldog [France, date not given]. The dog had been sterilized by oophorectomy at 6 months of age. After 6 years, the animal began to leak urine intermittently especially at night, which was complicated by episodes of cystitis for 8 months that relapsed every 2-3 months. The dog also showed marked obesity. Genital atrophy was observed in the vulva, which appeared to be capped. Moreover, lesions and perivulvar dermatitis were observed. A slight vulvar discharge was observed, and vulvar seropurulent manipulation of the genital area evoked pain. Vaginoscopy revealed persistence of the hymen, a congenital abnormality. Cytoscopy showed urinary incontinence, which could be linked to the early sterilization of the animal. Vulvoplasty was suggested, but the anaesthetic risk was great due to obesity. Thus, the owners opted to postpone the surgery, and the dog was orally given phenylpropanolamine (one mg/kg/day). Intermittent passing of urine ceased 3 weeks after the treatment was started, and weight loss was comparatively slow.
Publication Type
Journal article.

<100>
Accession Number
20103045845
Author
Jurka, P.; Trebacz, P.

**Title**

**Source**

**Publisher**
National Veterinary Research Institute

**Location of Publisher**
Pulawy

**Country of Publication**
Poland

**Abstract**
The aim of this paper was the assessment of the useful alternative method of surgical treatment of urinary incontinence in the spayed bitch. The operation was performed on a bitch, which before had been inefficiently treated by available drugs. During a contrast X-ray examination (ascendent urethrography), executed before the operation, intrapelvic position of urinary bladder neck, as well as slight spondylosis L 1, 2, and 6 and spondylarthrosis of the section L 1-4 was found. During an ultrasound examination of the abdominal cavity, perceptible changes of bladder's wall structure were not found. The vagina remained not adhered to the base of the bladder and it did not contain fluid content. The structure of either kidney did not differ from normal; inflammatory changes were not found. Before the operation, basic biochemical and morphological examination of peripheral blood, as well as general urine examinations, had been performed. The obtained results did not differ from the reference values. In the hormonal profile of peripheral blood, low concentration of oestradiol 19 pg/mL in comparison to the reference values for a bitch (<=20 pg/mL in anoestrus), as well as of progesterone 0.2 ng/mL (<=1 ng/mL in anoestrus), was found. The operation performed consisted of modification and simultaneous combination of three different techniques (colposuspension, bladder neck reconstruction, and bladder suspension) of surgical incontinence treatment. During the follow-up examination after surgery, an intra-abdominal position of the entire bladder was found, and during the period of 16 months after the operation, incidence of urine uncontrolled discharge/leakage were not observed.

**Publication Type**
Journal article.
pose a serious diagnostic problem, due to the complexity of the nervous system and the multiplicity of the connections between its nervous tracts.
be associated with a decrease in maximal urethral closure pressure, hormonal changes and increase in the percentage of collagen in the bladder wall. It is also associated to reduced contractility of the detrusor muscle, decrease in the magnitude of response of the bladder wall to both carbachol and electrical field stimulation, and there are risk factors involved. The diagnosis is established based on historical findings, physical examination, laboratorial exams, urethral pressure profilometry, ultrasonography and abdominal radiography. The medical management involves the application of adrenergic agonists, oestrogens, GnRH analogues and antidepressants. Surgical recommendation management corresponds to urethropexy, cistourethropexy, endoscopic periurethral injection and colpo-suspension. A better understanding of the aetiology, physiopathology, diagnostic methods and treatment can provide significant benefits, considering the lack of knowledge and diagnosis of this clinical condition in Brazil.

Publication Type
Journal article.
A 7-month-old, 4.3-kg, spayed female bichon frise was referred for evaluation of chronic urinary incontinence. Abdominal radiographs revealed calculi within the right kidney and ureter. An ultrasound revealed a small right kidney. An abdominal computed tomography scan with contrast revealed that the left ureter was extramurally ectopic, inserting into the proximal urethra. A right intramural ectopic ureter was identified during cystotomy. Ureteronephrectomy was performed on the right, and ureteroneocystostomy was performed on the left. A telephone conversation with the owner 4 months after surgery revealed that the dog exhibited no evidence of urine dribbling, and urinary continence was maintained well on phenylpropanolamine (1.75 mg/kg orally q 12 hours). This is the first report of successful surgical management of bilateral ureteral ectopia with concurrent, unilateral, renal dysplasia and urolithiasis.


Urinary incontinence in animals poses a growing therapeutic problem. Satisfactory results in the treatment of incontinence are not reported despite the wide availability of pharmaceuticals addressing the problem. The growing number of side effects and the need for sustained pharmacotherapy have prompted a search for new treatment methods. The experiment described in this study was performed on 11 bitches with clinical symptoms of urinary incontinence. The dogs underwent cystoscopy during which botulinum toxin solution was injected into the wall of the urinary bladder (50-100 botulinum toxin units were given per animal in 10 injections), causing changes in its innervation. Positive therapeutic effects lasting for 5 months in average were noted in 70% of the treated animals.
20103159778
Author
Bartges, J. W.
Title
Urolithiasis: rocks are rollin'.
Source
Publisher
American Animal Hospital Association
Location of Publisher
Denver
Country of Publication
USA
Abstract
Dogs and cats are often examined because of signs of lower urinary tract disease including hematuria, dysuria, pollakiuria, incontinence, and inappropriate urination. A review of data obtained from the Veterinary Medical Data Base between 1980 and 1995 revealed a prevalence of lower urinary tract disease in dogs of 3.0 percent (16,702 cases/561,028 individuals examined); between 1980 and 1990, the prevalence of lower urinary tract disease in cats was 7.3 percent (13,511 cases/184,983 individuals examined). Lower urinary tract disease is more prevalent in dogs older than four years of age, and in cats between one and ten years of age. Urolith formation is not a specific disease, but the sequelae to a group of underlying disorders. The urinary system is designed to dispose of wastes in liquid form. However, during urolith formation, sustained alterations in urine composition promote supersaturation of one or more substances eliminated in urine, and result in their precipitation and subsequent growth. The fact that urolith formation is erratic and unpredictable emphasizes that several interrelated physiologic and pathologic factors are often involved. Therefore, detection of urolithiasis is only the beginning of the diagnostic process. Essential to urolith eradication and prevention is identification of the diseases and risk factors underlying crystal formation, retention, and growth. Regardless of the process in urolith formation, they all have the potential to disrupt normal urinary tract function. The mere presence of uroliths does not always necessitate their removal; however, those resulting in clinical signs (dysuria, hematuria, UTI, incontinence, obstruction, or azotemia) should be appropriately managed.
Publication Type
Book chapter
Conference paper.

<108>
Accession Number
20103204975
Author
Reichler, I. M.
Title
Urinary incontinence and puppy coat due to spaying in the bitch. An overview of pathophysiology, diagnosis and therapy. [German]
Source
Publisher
Schattauer GmbH
Location of Publisher
Stuttgart
Country of Publication
Germany
Abstract
Urinary incontinence as a consequence of an insufficient urethral closure mechanism (urethral sphincter mechanism incompetence, USMI) or an impaired storing capacity of the urinary bladder is a considerable side effect of castration in the female dog. Different factors such as breed, body weight and time of spaying have an impact on the risk of urinary incontinence. Loss of urine while the patient is recumbent is the most typical symptom which is first observed at a mean time of 2.8 years after castration. Diagnosis is obtained by excluding other causes, whereas a precise patient history is particularly helpful. Therapy is aimed at increasing the closing pressure of the urethra and/or the compliance of the urinary bladder. Usually success can be achieved by medical therapy, thus surgical intervention is normally not required. In addition to urinary incontinence, coat changes can be observed as an undesirable effect of castration in certain dog breeds. To date, the pathophysiology of decreased urethral closing pressure, altered storing function of the urinary bladder and coat changes induced by castration are still not fully understood. Apart from the well-known hypothesis of estrogen deficiency, altered secretion of the hypothalamic and pituitary hormones GnRH, FSH and LH due to castration may have an influence. In addition to alpha-adrenergic medication, Flavoxate and Estriol, depot formulations of GnRH analogues have been successfully used to treat urinary incontinence. These depot formulations have also been described for the treatment of coat changes due to spaying.

Publication Type
Journal article.

<109>
Accession Number
20103181444
Author
Adams, L. G.
Title
Treatment of refractory urinary incontinence.
Source
Publisher
The North American Veterinary Conference
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.

<110>
Accession Number
20103181403
Author
Westropp, J. L.
Title
Diagnostic and management strategies for canine urinary incontinence.
Source
Objective - To determine outcome of cystoscopic-guided transection for treatment of ectopic ureters in dogs. Design - Retrospective case series. Animals - 16 female dogs. Procedures - Medical records of dogs that underwent cystoscopic-guided transection of the membrane separating unilateral or bilateral ectopic ureters from the urethra and bladder between May 2005 and May 2008 were reviewed. Postoperative outcome was determined by use of telephone interviews conducted 1 to 36 months after the procedure. Results - 4 dogs had complete resolution of urinary incontinence with cystoscopic-guided transection alone, an additional 5 dogs had complete resolution with a combination of cystoscopic-guided transection and phenylpropanolamine administration, and an additional 4 dogs had an improvement in urinary control, although urinary incontinence persisted. Outcome could not be assessed in the remaining 3 dogs because of collagen injections in the urethra at the time of ureteral transection (n=2) or nephrectomy secondary to unilateral hydronephrosis (1). Conclusions and Clinical Relevance - Results suggested that cystoscopic-guided transection may be an acceptable alternative to traditional surgical correction of ectopic ureter in dogs. Most complications associated with the cystoscopic procedure were minor and easily managed.
Source
Publisher
Elsevier Ltd
Location of Publisher
Oxford
Country of Publication
UK
Abstract
Urethral sphincter mechanism incompetence (USMI) is the most common cause of urinary incontinence in dogs. Surgery may be recommended if the animal does not respond to medical treatment or becomes refractory. In this third part of a three-part review, surgical options for the treatment of USMI are described. Colposuspension is the most frequently described procedure and offers a fair prognosis, with about 50% of the dogs being continent after surgery and most of the reminder being improved or more responsive to medical treatment. Urethropexy offers a similar success rate, but with a higher rate of complications. Endoscopic injection of collagen is an attractive technique due to its minimally invasive nature and low risk of adverse effects. Initial results may however deteriorate with time. Other procedures have been reported, but involve a low number of cases and have resulted in variable success rates. In women, stress urinary incontinence is mainly treated by minimally invasive procedures involving vaginal placement of sub-urethral slings.
Publication Type
Journal article.

<113>
Acquisition Number
20103374155
Author
Noel, S.; Claeys, S.; Hamaide, A.
Title
Source
Publisher
Elsevier Ltd
Location of Publisher
Oxford
Country of Publication
UK
Abstract
Various pathologies can affect the bladder and/or urethral contractility causing signs of urinary incontinence. In this second part of a three-part review, the pathophysiology of impaired urethral contractility (including urethral hyper- and hypotonicity) in the bitch and in women is discussed. Urethral sphincter mechanism incompetence (USMI) is the most common form of acquired urinary incontinence in bitches and is characterized by a decreased urethral tone. The pathophysiology and current recommended medical treatment options for USMI and cases of modified urethral tonicity due to a neurological disorder or functional outlet obstruction are discussed. Treatment options in human medicine in cases of impaired urethral contractility are described.
Publication Type
Journal article.
Accession Number
20103374052
Author
Noel, S.; Claeys, S.; Hamaide, A.
Title
Source
Veterinary Journal; 2010. 186(1):10-17. many ref.
Publisher
Elsevier Ltd
Location of Publisher
Oxford
Country of Publication
UK
Abstract
Micturition disorders are commonly encountered in veterinary medicine and can be divided into two main categories, namely, urinary incontinence and urinary retention. Various pathologies can affect the bladder and/or urethral contractility causing symptoms of urinary incontinence. In this first part of a three-part review, the different causes of urinary incontinence, the physiology of the lower urinary tract and impaired bladder contractility are reviewed. Since urinary incontinence due to overactive bladder syndrome or detrusor atony is described in both dogs and humans, the different therapeutic targets in the treatment of impaired bladder contractility in human and veterinary medicine are discussed.
Publication Type
Journal article.

Accession Number
20093018877
Author
Brockman, D. J.
Title
How I treat ectopic ureters.
Source
Publisher
The North American Veterinary Conference
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.
Accession Number
20093018876
Author
Brockman, D. J.
Title
How I treat urethral sphincter mechanism incompetence.
Source
Publisher
The North American Veterinary Conference
Location of Publisher
Gainesville
Country of Publication
USA
Publication Type
Conference paper.

Accession Number
20093017976
Author
Westropp, J. L.
Title
Urinary incontinence in dogs: diagnostics and management strategies.
Source
Publisher
Australian Small Animal Veterinary Association
Location of Publisher
Bondi
Country of Publication
Australia
Publication Type
Book chapter
Conference paper.

Accession Number
20093073552
Author
Coit, V. A.; Dowell, F. J.; Evans, N. P.
Title
Neutering affects mRNA expression levels for the LH- and GnRH-receptors in the canine urinary bladder.

Source
Theriogenology; 2009. 71(2):239-247. 40 ref.

Publisher
Elsevier

Location of Publisher
New York

Country of Publication
USA

Abstract
Neutering a bitch increases the incidence of acquired urinary incontinence (AUI) 20-fold. Mechanistically this effect is thought to be related to altered steroid/reproductive hormone concentrations and a recent study showed that gonadotrophin releasing hormone (GnRH) analogue treatment improved continence in bitches with AUI. The aim of this study was to examine mRNA expression levels for luteinizing hormone (LH)- and GnRH-receptors in the canine bladder and the correlation between these and in vitro contractility of the bladder using age matched entire and neutered, male and female canines and canines with AUI. Biopsies from the dome of the bladder were dissected post mortem with informed owner consent. mRNA expression for LH- and GnRH-receptor was quantified by rTTPCR (relative to beta-actin). Contractility was assessed (cumulative concentration response curve for carbachol) in strips of bladder muscle using standard protocols. Analysis of variance (Tukey post-test) demonstrated that neutering was associated with significantly increased levels of expression of LH- and GnRH-receptor mRNA in both sexes (P<0.01). mRNA expression for both receptors was significantly higher in female versus male canines. Neither effect was affected by animals' age and/or weight. A significant inverse correlation (Spearman's test) was found between bladder contractility and mRNA expression for both receptors. This effect was most pronounced in canines with AUI which demonstrated the highest mRNA expression levels yet had the lowest contractility of all animals studied. This suggests that increased LH- and GnRH-receptor mRNA expression is associated with changes in bladder function that increase an animal's predisposition to develop AUI.

Publication Type
Journal article.

Accession Number
20093087075

Author
Veronesi, M. C.; Rota, A.; Battocchio, M.; Faustini, M.; Mollo, A.

Title
Spaying-related urinary incontinence and oestrogen therapy in the bitch.

Source

Publisher
Akademiai Kiado

Location of Publisher
Budapest

Country of Publication
Hungary

Abstract
Some aspects of spaying-related urinary incontinence in the bitch still remain incompletely clarified. Therefore, the aims of the present study were to evaluate the prevalence of the disease among spayed dogs, to detect differences in risk related to the type of surgery, to describe the characteristics of incontinent bitches, to assess the influence of age at surgery on the onset of incontinence occurrence, and to assess the effectiveness and long-term side effects of oestrogen therapy in affected bitches. Among 750 bitches submitted to ovariecotmy or ovariohysterectomy, those showing spaying-related urinary incontinence were
evaluated. Oestrogen replacement therapy consisted of administering an effective dose followed by an individual maintenance dose. The results showed that the disease occurred in 5% of neutered bitches, the type of surgery did not affect the disease occurrence, affected bitches frequently represented large or giant breeds or large-size mongrels, the body weight of the affected bitches at surgery was often >=20 kg, the disease seems to be associated with tail docking, the age at surgery influences the onset of incontinence, with earlier occurrence in older bitches, and that a strong co-operation between owners and veterinarians is necessary to achieve successful response to oestrogen replacement therapy. Long-term administration seems to be unrelated to oestrogenic side effects.

Publication Type
Journal article.

Accession Number
20093125930
Author
Neath, P.
Title
Logical and stepwise approaches to urological disease in small animals.
Source
Veterinary Times; 2009. 39(18):14...17.
Publisher
Veterinary Business Development Ltd
Location of Publisher
Peterborough
Country of Publication
UK
Abstract
This article discusses the similarities and differences between the aetiology, investigation and management of the two broad categories of lower urinary tract disease particularly the incontinence and abnormal urination in dogs and cats. The clinical aspects, aetiology, diagnosis and treatment of incontinence and abnormal urination in dogs and cats are also presented.
Publication Type
Journal article.

Accession Number
20093162958
Author
Savicky, R. S.; Jackson, A. H.
Title
Use of a rectus abdominis muscle flap to repair urinary bladder and urethral defects in a dog.
Source
Journal of the American Veterinary Medical Association; 2009. 234(8):1038-1040. 6 ref.
Publisher
American Veterinary Medical Association
Location of Publisher
Schaumburg
Country of Publication
UK
USA

Abstract
Case Description - An 11-month-old female dog was evaluated because of a 3- to 4-day history of stranguria and hematuria. Clinical Findings - Rectal and vaginal examination and abdominal radiography revealed a large (4x2 cm), firm, ovoid object in the area of the pelvic inlet, between the vagina and colon. Treatment and Outcome - Surgical exploration revealed an abscess and moderate amount of seropurulent fluid in the left caudal abdominal quadrant. A large urethrolith (3.7x2.0x1.5 cm) was evident in the proximal portion of the urethra. The urethrolith was associated with a 3x1-cm area of necrosis in the ventral aspect of the proximal portion of the urethra and a 3x3-cm area of necrosis in the area of the bladder trigone. The necrotic areas were debrided, and the defect was repaired with an axial pattern flap constructed from the rectus abdominis muscle. During a follow-up examination 2.5 years after surgery, the dog was clinically normal with no history of urinary incontinence. During rigid cystoscopy, the urethral mucosa appeared grossly normal, and there was no evidence of stricture. Clinical Relevance - Findings suggested that axial pattern flaps constructed from the rectus abdominis muscle flap may be useful in reconstructing large urinary bladder and urethral defects.

Publication Type
Journal article.

<122>
Accession Number
20093221412
Author
Arnold, S.; Hubler, M.; Reichler, I.
Title
Urinary incontinence in spayed bitches: new insights into the pathophysiology and options for medical treatment.
Source
Reproduction in Domestic Animals; 2009. 44(s2):190-192. 33 ref.
Publisher
Blackwell Publishing
Location of Publisher
Berlin
Country of Publication
Germany
Publication Type
Journal article
Conference paper.

<123>
Accession Number
20093235841
Author
Rose, S. A.; Adin, C. A.; Ellison, G. W.; Sereda, C. W.; Archer, L. L.
Title
Source
Veterinary Surgery; 2009. 38(6):747-753. 28 ref.
Objective - To evaluate the efficacy of a surgically placed, static hydraulic urethral sphincter (SHUS) for treatment of urethral sphincter mechanism incompetency (USMI). Study Design - Prospective study. Animals - Spayed female dogs (n=4) with acquired USMI. Methods - Urinary incontinence was assessed using a subjective continence score before and after implantation of an SHUS on the proximal urethra via ventral median celiotomy. Dogs were assessed for urinary continence, urinary tract infections, and implant-associated complications for 30 months. Residual incontinence was treated with percutaneous inflation of the SHUS with sterile saline solution through a biocompatible subcutaneous administration port. Results - At last follow-up (26-30 months after surgery), continence scores improved from a median preoperative score of 3/10 to a median postoperative score of 10. One dog developed wound drainage over the subcutaneously placed administration port but remained continent after port removal. Three occluders were percutaneously filled with additional saline (median, 0.18 mL; mean, 0.16 mL) to improve continence after surgery. Conclusions - Application and adjustment of an SHUS provided sustained improvements in continence score in all dogs. Clinical Relevance - In this pilot study, 3 of 4 dogs with hydraulic urethral sphincter implantation had successful percutaneous adjustment and maintained improved continence scores for 2 years after surgery. Continence was maintained in the 4th dog even after administration port removal. Based on this pilot study, the SHUS warrants further clinical evaluation for treatment of dogs with USMI unresponsive to medical management.

Abstract

In this article, syndrome of urinary incontinence in dogs is described, especially possible diagnostic methods aimed at contrast rentgenology imaging of urine apparatus and differential diagnostics. This issue is presented on two cases with suspicion on ectopic ureter as a cause of incontinence. In the first case was a probable reason for the incontinence SMI (incompetence of urinary sphincter). In the second case was diagnosed ectopic ureter proved by retrograd vaginourethrophy, which was successfully surgically treated.

Publication Type
Journal article.
Urinary incontinence - loss of voluntary control over the retention and expulsion of urine - is a common medical problem in small animal patients. Incontinence occurs when pressure within the bladder exceeds urethral pressure. Incontinence may result from a variety of etiologies, including congenital anatomic abnormalities of the lower urinary and reproductive systems (ureter, bladder, bladder neck, urethra, vagina, vestibule) as well as neurologic, neoplastic, infectious, and inflammatory diseases.
surgery. As long as 40 years ago urinary incontinence was described as a rare side effect of spaying. However, it took 20 years to verify the causal relationship between the removal of the ovaries and urinary incontinence. The triggering mechanism is still unclear. Neuronal damage can most likely be disregarded, as the risk of urinary incontinence is the same in ovariectomised and ovariohysterectomised bitches.

Publication Type
Journal article.

<127>
Accession Number
20093301476
Author
Hotston-Moore, A.
Title
Incontinence in adult bitches.
Source
Veterinary Times; 2009. 39(43):6. 1 ref.
Publisher
Veterinary Business Development Ltd
Location of Publisher
Peterborough
Country of Publication
UK
Abstract
This article describes the aetiology and the surgical and endoscopic treatment of urinary incontinence in bitches in the UK.
Publication Type
Journal article.
of the patients had an intermittent urine-losing failure, in the rest the urine loss was permanent. The authors found the condition significantly more common in beaches than males. The intravenous excretory urography was the primary method of diagnosing ureteral ectopia in the patients. The operation technique applied depended on the location of the distal part of the ureter and on the anatomical variations of the orifices, if found during the medial laparotomy. In all patients neoureterostomy was performed. Visibly dilated ureters and a distinctly different size of the kidneys were the most common additional anomalies of the urinary system, found in 5 patients. Altogether, eight patients were treated by surgery, in interviews conducted 6 to 31 months after the procedure, the owners of 6 dogs were satisfied with its results. The other two dogs were found greatly improved but with persistent incontinence incidents associated with relaxation or recumbency, particularly at night.

Publication Type
Journal article.

<129>
Accession Number
20093336513
Author
Battersby, I.
Title
Urinary tract nervous system disorders: drug therapy review.
Source
Publisher
Veterinary Business Development Ltd
Location of Publisher
Peterborough
Country of Publication
UK
Abstract
This article discusses urine storage and voiding as well as drug therapies that can be utilized in the event of nervous system problems. Focus is given on the neuroanatomical components and processes involved in the storage and voiding of urine.
Publication Type
Journal article.

<130>
Accession Number
20083123205
Author
Berent, A. C.; Mayhew, P. D.; Porat-Mosenco, Y.
Title
Source
Publisher
American Veterinary Medical Association
Location of Publisher
Objective - To describe and evaluate the outcome of cystoscopic-guided laser ablation of intramural ureteral ectopia in male dogs.  

Design - Retrospective case series.  

Animals - 4 incontinent male dogs with intramural ureteral ectopia.  

Procedures - Intramural ectopic ureters were diagnosed via preoperative computed tomography-IV urography and subsequent cystoscopy. Transurethral cystoscopic-guided laser ablation (diode laser [n=3 dogs] and holmium:yttrium aluminum garnet laser [1]) was performed to proximally relocate the ectopic ureteral orifice to the urinary bladder. Fluoroscopy was used during the procedures to confirm that the ureteral tract was intramural and the ureteral orifice was intravesicular after the procedure. In 1 dog with bilateral ureteral ectopia, staged laser ablation was performed at 6-week intervals because of difficulty viewing the second ureter on the first attempt. All ureteral orifices were initially located in the middle to proximal portion of the prostatic portion of the urethra. Six weeks after surgery, imaging was repeated in 3 of 4 dogs. Results - Postoperative dysuria or hematuria did not develop. All dogs were immediately continent after laser treatment and remained so at a median follow-up period of 18 months (range, 15 to 20 months) without medical management. Conclusions and Clinical Relevance - Ureteral ectopia can cause urinary incontinence in male dogs and is usually associated with other urinary tract abnormalities. Cystoscopic-guided laser ablation provided an effective and minimally invasive alternative to surgical management of intramural ureteral ectopia.  

Abstract

Acquired urinary incontinence is a significant, incurable problem, prevalent in neutered bitches but rarely seen in entire bitches or males. Decreased urethral closure pressure has been proposed as a causative factor for altered detrusor contractility in the neutered bitch. In postmenopausal women, acquired urinary incontinence is associated with acquired urinary incontinence and changes in collagen deposition within the bladder wall. The aim of this study was to determine effects of neutering on smooth muscle in the canine urinary bladder. Tissue bath studies were used to assess contractile function and morphometric analysis to determine percentage of collagen in the bladder wall from male and female, neutered and entire canines. Maximal response to both carbachol and neurogenic stimulation was significantly lower in bladder strips from neutered animals of both sexes. Sensitivity to carbachol was also significantly reduced by neutering in both sexes. The percentage of collagen was significantly higher in the bladder wall from neutered vs. entire females, which were similar to that of both neutered and entire males. Neutering a canine decreases urinary bladder responsiveness to muscarinic stimulation in vitro, in both sexes, but only increases the percentage of collagen in the bladder wall in females. While increased percentage collagen may predispose bitches to...
acquired urinary incontinence, the sex difference in this parameter indicates that more than one mechanism underlies the changes in bladder responsiveness seen following neutering. This alternative effect of neutering may be in the muscarinic receptor effector pathway and act as a therapeutic target for acquired urinary incontinence treatment.

Publication Type
Journal article.

Accession Number
20083310557
Author
Shiel, R. E.; Puggioni, A.; Keeley, B. J.
Title
Canine urinary incontinence. Part 2: Treatment.
Source
Irish Veterinary Journal; 2008. 61(12):835-840. 28 ref.
Publisher
Irish Veterinary Association
Location of Publisher
Dublin
Country of Publication
Irish Republic
Abstract
This article describes the pharmacological and surgical treatment of urinary incontinence secondary to acquired urethral sphincter mechanism incompetence (USMI) in dogs.
Publication Type
Journal article.

Accession Number
20183011514
Author
Decker, S. de; Watts, V.; Neilson, D. M.
Title
Dynamic lumbosacral magnetic resonance imaging in a dog with tethered cord syndrome with a tight filum terminale.
Source
Publisher
Frontiers Media S.A.
Location of Publisher
Lausanne
Country of Publication
Switzerland
Abstract
A 1-year and 11-month-old English Cocker Spaniel was evaluated for clinical signs of progressive right pelvic limb lameness and urinary incontinence. Neurological examination was suggestive of a lesion localized to the L4-S3 spinal cord segments. No abnormalities were seen on magnetic resonance imaging
(MRI) performed in the dog in dorsal recumbency and the hips in a neutral position and the conus medullaris ended halfway the vertebral body of L7. An MRI of the hips in extended and flexed positions demonstrated minimal displacement of the conus medullaris in the cranial and caudal directions, respectively. Similar to the images in neutral position, the conus medullaris ended halfway the vertebral body of L7 in both the extended and flexed positions. In comparison, an MRI of the hips in neutral, extended, and flexed positions performed in another English Cocker Spaniel revealed obvious cranial displacement of the conus medullaris with the hips in extension and caudal displacement with hips in flexion. A standard dorsal lumbosacral laminectomy was performed. Visual inspection of the vertebral canal revealed excessive caudal traction on the conus medullaris. After sectioning the distal aspect of the filum terminale, the conus medullaris regained a more cranial position. A neurological examination 4 weeks after surgery revealed clinical improvement. Neurological examinations at 2, 4, 7, and 12 months after surgery did not reveal any abnormalities, and the dog was considered to be clinically normal. Tethered cord syndrome with a tight filum terminale is a very rare congenital anomaly and is characterized by an abnormally short and inelastic filum terminale. Therefore, this disorder is associated with abnormal caudal traction on the spinal cord and decreased physiological craniocaudal movements of the neural structures within the vertebral canal. Although further studies are necessary to evaluate and quantify physiological craniocaudal movement of the spinal cord and conus medullaris in neurologically normal dogs, the results of this report suggest further exploration of dynamic MRI to demonstrate decreased craniocaudal displacement of the conus medullaris in dogs with tethered cord syndrome with a tight filum terminale.

Publication Type
Journal article.
Urinary incontinence can be acquired or congenital and have various origins. However, the initial diagnostic process must make a distinction between a storage default incontinence and bladder voiding default, rather than by causative origin. Epidemiology, description of urination and incontinence are important elements of the diagnostic process. Laboratory tests and medical imaging examinations then complete the process.

Transurethral cystoscopy (TUC) is the only diagnostic tool that enables direct visualization of the urethra and bladder. The procedure is minimally invasive, and the risk of complications is small. Moreover, TUC offers the opportunity to collect mucosal biopsies for culture and histopathology. Indications for cystoscopy include chronic urinary tract infections, haematuria, urinary incontinence and dysuria. TUC can be used to detect anatomical anomalies, tumours, uroliths and obstructions. Signs of urethritis and cystitis such as increased vascularisation and petechial haemorrhage may be visualized, and the source of haematuria can be identified. TUC can also assist removal of uroliths.
Clinical, surgical, histological and urinary aspects in six dogs with total penectomy. [Portuguese]

The aim was report the evolution of dogs operated by this technique, theirs complications and the histological results, urinalysis and uroculture in patients with 60 days post-operative surgery. From a period of 17 months (March 2013 to July 2014), nine dogs showed various neoplastic diseases involving the penis, prepuce, scrotum and testicles were evaluated. From the nine selected dogs, only six were considered due to patient death before the minimum period used for postoperative evaluation. After surgery, the genital tract along the resected neoformation were conditioned to 10% formalin and sent to the Veterinary Pathology Laboratory for tissue analysis in light microscopy. All patients remained in hospital in the postoperative period about a week, receiving medications intravenously, execution of dressing every 12 h and evaluation of possible postoperative complications such as dehiscence suture and post-micturition urethral bleeding. The dehiscence occurred only in the skin adjacent the region, keeping the firm urethrocutaneous junction points. Patients were discharged only after the complete absence of bleeding which took four to seven days. The use of the Elizabethan collar was recommended until the removal of skin and urethral points, held approximately 15 days after surgery. The patients’ owners who had more than 60 days after surgery, were contacted by telephone and asked for a return to postoperative assessment and collection of blood and urine, in order to investigate the occurrence of possible physiological changes caused by the surgical procedure of penectomy associated with scrotal urethrostomy. All owners reported a slight change in the appearance of urine, lack of difficulty/ urinary incontinence and degree of dermatitis near uretrostomy ranging from absent to mild. Few changes related to the urinary tract were observed in the urinalysis and urinary infection rate was low. However, two of the six dogs were euthanized, due to the aggressive development of visceral metastases, which occurred within two to five months in these cases. All patients had complete healing in the urestrostomia region without the occurrence of obstruction or stenosis. The owners reported satisfactory adaptation of the patients the procedure and absence of local complications to the endpoint.

Publication Type
Journal article.
Imaging diagnosis-urethrovaginal fistula caused by a migrating grass awn in the vagina.

Source
Veterinary Radiology & Ultrasound; 2016. 57(3):E30-E33. 19 ref.

Publisher
Wiley-Blackwell

Location of Publisher
Oxford

Country of Publication
UK

Abstract
A young intact female dog was presented with urinary incontinence. Abdominal ultrasound revealed the presence of hyperechoic linear structures within the cranial vagina suggestive of foreign material. A computed tomography (CT) retrograde vaginourethrogram demonstrated the presence of a fistulous tract between the urethra and vagina. A presumptive diagnosis of urethrovaginal fistula due to migration of foreign material was made. The grass awn was removed with vaginoscopic-guided retrieval. Fourteen days later, surgical repair of the fistula and an ovariohysterectomy were done. This case report emphasizes the usefulness of CT for diagnosis and precise anatomical localization of genitourinary tract fistulas.

Publication Type
Journal article.

<139>

Accession Number
20163204212

Author
Maurey-Guenec, C.

Title
Procedures in diagnosing a case of urinary incontinence in an elderly animal. [Italian]

Source

Publisher
Point Veterinaire Italie s.r.l.

Location of Publisher
Milano

Country of Publication
Italy

Abstract
This article discusses the three diagnostic steps in senior dogs and cats affected with urinary incontinence. Step 1 details the normal functioning of bladder and sphincter and causes of urinary incontinence; while step 2 establishes differential diagnosis; and step 3 indicates complementary diagnostic examinations.

Publication Type
Journal article.

<140>

Accession Number
20163301580

Author
Hart, B. L.; Hart, L. A.; Thigpen, A. P.; Willits, N. H.

Title

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Page 80 of 91
Neutering of German Shepherd Dogs: associated joint disorders, cancers and urinary incontinence.

Source
Veterinary Medicine and Science; 2016. 2(3):191-199. 25 ref.
Publisher
Wiley-Blackwell
Location of Publisher
Oxford
Country of Publication
UK

Abstract
German Shepherd Dogs are important in police and military work, and are a popular family pet. The debilitating joint disorders of hip dysplasia, cranial cruciate ligament tear (CCL) and elbow dysplasia can shorten a dog's useful working life and impact its role as a family member. For this study, veterinary hospital records were examined over a 14.5-year period on 1170 intact and neutered (including spaying) German Shepherd Dogs for joint disorders and cancers previously associated with neutering. The diseases were followed through 8 years of age, with the exception of mammary cancer (MC) in females that was followed through 11 years. The cancers followed, apart from mammary, were osteosarcoma, lymphoma, hemangiosarcoma and mast cell tumour. In intact males, 7% were diagnosed with one or more joint disorders, while in males neutered prior to a year of age, a significantly higher 21% were diagnosed with one or more joint disorders. In intact females, 5% were diagnosed with one or more joint disorders, while in females neutered prior to a year of age, this measure was significantly increased to 16%. The increased joint disorder incidence mostly associated with early neutering was CCL. MC was diagnosed in 4% of intact females compared with less than 1% in females neutered before 1 year. The occurrence of the other cancers followed through 8 years of age was not higher in the neutered than in the intact dogs. Urinary incontinence, not diagnosed in intact females, was diagnosed in 7% of females neutered before 1 year, a significant difference. These findings, profiling the increase in joint disorders associated with early neutering, should help guide the timing of neutering for this breed.

Publication Type
Journal article.
Accession Number
20163368637

Title
Joint disorders, cancer and urinary incontinence in early neutered German shepherd dogs.

Source

Publisher
Elsevier Inc.

Location of Publisher
Philadelphia

Country of Publication
USA

Publication Type
Journal article.

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Accession Number
20153006474

Author
Bowlt, K.

Title

Source
Veterinary Times; 2015. 45(1):8, 10. 22 ref.

Publisher
Veterinary Business Development Ltd

Location of Publisher
Peterborough

Country of Publication
UK

Publication Type
Journal article.

---

Accession Number
20153256342

Author
Cook, A. B.; Langston, C. E.; Fischetti, A. J.; Donovan, T. A.

Title
Imaging diagnosis - urinary bladder duplication in a cat.

Source
Veterinary Radiology & Ultrasound; 2015. 56(4):E48-E53. 32 ref.

Publisher
Wiley-Blackwell

Location of Publisher
Oxford

Country of Publication
Abstract
A female kitten presented for chronic, intermittent, antibiotic-responsive urinary incontinence and chronic kidney disease. Abdominal ultrasound identified bilateral pelvic/ureteral dilation and three closely apposed thin-walled fluid-filled structures in the caudal abdomen, extending toward the pelvic inlet. Excretory urography and negative contrast cystography identified contrast medium accumulation from the dilated ureters into two tubular soft tissue masses of the caudal abdomen, with subsequent gradual filling of a more cranially located urinary bladder. A retrograde vaginocystourethrogram identified a normal uterus, normal vagina, and a single urethra continuous with the cranially located urinary bladder. Antemortem diagnosis was suspicious for bilateral ectopic ureteroceles. Postmortem diagnosis, 35 months following initial presentation, determined the fluid-filled masses to have abundant smooth muscle in the wall, including a muscularis mucosa connected by a common ostium, consistent with urinary bladder duplication. Urinary bladder duplication should be included as a differential diagnosis in cats with these clinical and imaging characteristics. In this case, differentiation of ectopic ureterocele from urinary bladder duplication required histological confirmation.
A Maltese (case 1) and a Labrador Retriever (case 2) presented with urinary incontinence. General conditions were good and screening tests, including a complete blood count, serum chemistry and radiography, were performed. Excretory urography was conducted, and fluoroscopy was performed for case 1 and computed tomography was performed for case 2. The dogs were diagnosed as right extramural ectopic ureter in case 1 and bilateral intramural ectopic ureter in case 2. We performed surgical corrections, including a neoureterocystostomy for extramural ectopic ureter and neoureterostomy for intramural ectopic ureter. After surgery, the dogs were catheterized with an indwelling catheter for 3 days. Urinary incontinence improved completely and the clinical outcomes were good. The choice of adequate surgical procedure is important for correcting ectopic ureters in canines.

Diagnostic approach to urinary incontinence in older animals. [French]


Publication Type
Journal article.
Male dogs are less commonly presented due to urinary incontinence than females, which is also reflected by the small amount of available literature on urinary incontinence in the male dog. This review should serve as a work-up guideline for the most common causes of urinary incontinence in the male dog. A presumptive diagnosis can often be made on the basis of history, signalement and a thorough clinical examination. In most cases specific investigations such as contrast radiography, ultrasonography and computer tomography are indicated for a definitive diagnosis. In puppies congenital abnormalities of the urogenital tract like ectopic ureters, congenital sphincter mechanism incompetence, bladder hypoplasia, persistent urachus and neurological disorders are the main causes of urinary incontinence. The most common causes in the adult dog are acquired disorders such as prostatic diseases, urethral sphincter mechanism incompetence, neurological disorders, detrusor instability, bladder neoplasia and ureteral ectopia.

**Title**
Urinary incontinence in the male dog. [German]

**Source**
Praktische Tierarzt; 2013. 94(4):288...296. 36 ref.

**Publisher**
Schlutersche Verlagsgesellschaft GmbH & Co. KG

**Location of Publisher**
Hannover

**Country of Publication**
Germany

**Abstract**
Male dogs are less commonly presented due to urinary incontinence than females, which is also reflected by the small amount of available literature on urinary incontinence in the male dog. This review should serve as a work-up guideline for the most common causes of urinary incontinence in the male dog. A presumptive diagnosis can often be made on the basis of history, signalement and a thorough clinical examination. In most cases specific investigations such as contrast radiography, ultrasonography and computer tomography are indicated for a definitive diagnosis. In puppies congenital abnormalities of the urogenital tract like ectopic ureters, congenital sphincter mechanism incompetence, bladder hypoplasia, persistent urachus and neurological disorders are the main causes of urinary incontinence. The most common causes in the adult dog are acquired disorders such as prostatic diseases, urethral sphincter mechanism incompetence, neurological disorders, detrusor instability, bladder neoplasia and ureteral ectopia.

**Publication Type**
Journal article.

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**Title**
Urinary incontinence in neutered bitches: Part One - How it develops.

**Source**
Veterinary Times; 2013. 43(21):16-20. 28 ref.

**Publisher**
Veterinary Business Development Ltd

**Location of Publisher**
Peterborough

**Country of Publication**
UK

**Publication Type**
Journal article.
Accession Number
20123389434
Author
Anders, K. J.; McLoughlin, M. A.; Samii, V. F.; Chew, D. J.; Cannizzo, K. L.; Wood, I. C.; Weisman, D. L.
Title
Source
Publisher
American Animal Hospital Association
Location of Publisher
Denver
Country of Publication
USA
Abstract
Ureteral ectopia is a well-described cause of urinary incontinence in female dogs, but this condition has not been completely characterized in male dogs. Sixteen male dogs with ectopic ureters were evaluated between Jan 1999 and Mar 2007. Male dogs were similar to female dogs with ectopic ureters in terms of breed, presenting complaint, age of onset, and bilateral nature of the ectopia. Diagnosis was made by expert interpretation of imaging techniques such as excretory urography and contrast-enhanced computed tomography (CT). Overall, 11 of 13 dogs that had surgical correction of ectopic ureters were incontinent preoperatively. Urinary continence was restored in 82% of those dogs.
Publication Type
Journal article.

Accession Number
20113245171
Author
Pointer, E.; Murray, L.
Title
Chronic prostatitis, cystitis, pyelonephritis, and balanoposthitis in a cat.
Source
Publisher
American Animal Hospital Association
Location of Publisher
Denver
Country of Publication
USA
Abstract
An adult, intact male domestic shorthair presented for preputial swelling and urinary incontinence. A caudal abdominal mass was palpated. A transabdominal ultrasound examination showed severe prostatomegaly with abnormal tissue extending along the urethra. The cat was euthanized due to the owner's financial constraints and the veterinarians' suspicion of a poor long-term prognosis. Biopsies showed chronic active inflammation of the prostate, bladder, kidneys, ureters, penis, and prepuce most consistent with a chronic infectious process. Reports of feline prostatic disease of any kind are rare. Chronic prostatitis may have a more favorable prognosis than feline prostatic adenocarcinoma, currently the most commonly reported disease of the feline prostate.
Publication Type
Canine urinary tract problems may be readily identified by owners, with symptoms including pollakiuria, possibly accompanied by polydipsia, dysuria/stranguria, haematuria or urinary incontinence. Many conditions may be identified on physical examination and with minimum data, although others, such as proteinuria or azotaemia, require laboratory analysis/diagnostic imaging tests. The identification of clinical signs was described in a part one (VN Times 11.01); this article provides a general approach to the most common disorders that affect the lower urinary tract in dogs.

We reported two cases of dysuria caused by intrapelvic urethral trauma secondary to pelvic fracture. Case 1 (A 1-year-old male crossbreed dog, 3.1 kg) presented with pelvic fracture and dysuria. The urethral rupture was diagnosed by retrograde urography and the urethral anastomosis was performed. The dog has been urinating voluntarily but still has urinary incontinence at 16 months after the surgery. Case 2 (1-year-old male Miniature Dachshund, 3.7 kg) started to have dysuria at 7 days after the pelvic fracture repair. The urethral
stricture was diagnosed by retrograde urography. The first resection of urethral constriction and end to end anastomosis resulted recurrent urethral stricture. Therefore, the urinary diversion via preputial urethrostomy was performed. The dog has been urinating voluntarily at 10 months after the surgery.

Publication Type
Journal article.

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This case report involves a 3-month-old female kitten, which had shown a constant dribble of urine through a small vulva aperture since birth. Ultrasound examination and laparotomy revealed a complex abnormality of the urogenital tract, with urethral hypoplasia, absence of vagina and duplicated uterus. In view of the poor prognosis, involving the high risk of infection, and hygiene problems for the owner, the kitten was killed and examined post mortem. The diagnosis was confirmed by the PM examination.

Publication Type
Journal article.

The clinical records of dogs with urinary incontinence, examined at the Queen Mother Hospital for animals between November 1995 and January 2006, were reviewed. Only dogs that had at least one contrast
radiographic study, ultrasonographic examination of the ureters and surgical diagnosis were included. All the cases were examined on an individual ureter basis and on a case basis. The sensitivity, specificity and accuracy were calculated for intravenous urography, retrograde urethrogramy or retrograde vaginourethrography and ultrasonographic examination of the ureterovesiccular junctions. Ultrasonographic examination of the ureterovesiccular junctions had the higher sensitivity, specificity and accuracy from the imaging methods with only intravenous urography having mildly higher sensitivity when examined on a ureter base. The main failure of ultrasonographic examination of the ureterovesiccular junctions was the identification of the correct side of ectopia. When evaluated on a case basis ultrasonographic examination of the ureterovesiccular junctions had perfect sensitivity, specificity and accuracy. The lower mainly specificity and accuracy of intravenous urography and retrograde urethrogramy or retrograde vaginourethrography were probably related to the difficulty in identifying the location of the ureterovesicular junction.

Publication Type
Journal article.

Accession Number
20093278459
Author
D'Anelli, A.
Title
Leiomioma as cause of urinary incontinence and inability on the coupling in the bitch. [Italian]
Source
Praxis Veterinaria (Milano); 2009. 30(3):20-21.
Publisher
Bayer Italia S.p.A - Veterinaria
Location of Publisher
Milano
Country of Publication
Italy
Abstract
In the course of clinical work, may be required veterinary advice for a urinary incontinence and/or inability on the coupling of female; these symptoms should be assessed with great attention in virtue of the various causes that they can determine and, therefore, a depth differential diagnosis will allow to solve with great professionalism pathology, improving the quality of life of the animal. The presence of tumours of the female chromosome is rare and the symptoms often occur when the cancer has achieved great dimensions. But, surgical excision doesn't solve definitely the pathology; in fact, relapses, though rare, are possible.

Publication Type
Journal article.

Accession Number
20083254319
Author
Romagnoli, S.; Mascarello, F.; Guidi, G.; Bernardini, M.
Title
Urinary incontinence: a parallelism between dogs and humans. Epidemiology, causes and clinical signs. [Italian]
Source
Urinary incontinence (UI) occurs in male and female dogs and cats, but more common in dogs as 75% of cases were observed in spayed adult bitches. Female dogs and women share a few clinical aspects when it comes to UI, such as lack of oestrogen in women during menopause as in castrated bitches and the weakness (or incompetence) of the urethral sphincter (urethral sphincter incompetence mechanism=USMI) as key pathogenic mechanism. In spayed bitches, UI occurs among large dogs in which surgical removal of the tail is a common practice. Unlike women, the finding of the bladder neck into the pelvic cavity is not considered as risk factors in dogs. The incidence of (a) ectopic ureters (45% in young dogs) or (b) urogenital disease as cause of UI is quite low in adult dogs (5% and 20% respectively). Diseases which may occur complicating the diagnostic procedures include: neurologic conditions, generalized weakness, increase bladder tone, urinary tract infection, neoplasia, obstruction and use of drugs (diuretics, tranquilizer, corticosteroids, alpha and beta adrenergics). The classical sign however of USMI is the loss of urine during sleep or recumbency.

Abstract

A young pregnant rottweiler bitch was presented with a large mass of tissue protruding through the vulvar lips. Fetal death was diagnosed on ultrasonography, and ovariohysterectomy was performed, at which time the bladder was observed to be dislocated caudally into the pelvic cavity under the vagina. The bladder was manually repositioned during surgery. One week later, the bitch was healthy with no evidence of dysuria, stranguria or urinary incontinence. Two months later, the owner reported that the bitch was clinically normal with no recurrence of the retroflexion. To the authors' knowledge, this is the first reported case of retroflexion of the urinary bladder during pregnancy.

Abstract

Praxis Veterinaria (Milano); 2008. 29(3):2-8. 23 ref.

Publisher
Bayer Italia S.p.A - Veterinaria

Location of Publisher
Milano

Country of Publication
Italy

Abstract
Urinary incontinence (UI) occurs in male and female dogs and cats, but more common in dogs as 75% of cases were observed in spayed adult bitches. Female dogs and women share a few clinical aspects when it comes to UI, such as lack of oestrogen in women during menopause as in castrated bitches and the weakness (or incompetence) of the urethral sphincter (urethral sphincter incompetence mechanism=USMI) as key pathogenic mechanism. In spayed bitches, UI occurs among large dogs in which surgical removal of the tail is a common practice. Unlike women, the finding of the bladder neck into the pelvic cavity is not considered as risk factors in dogs. The incidence of (a) ectopic ureters (45% in young dogs) or (b) urogenital disease as cause of UI is quite low in adult dogs (5% and 20% respectively). Diseases which may occur complicating the diagnostic procedures include: neurologic conditions, generalized weakness, increase bladder tone, urinary tract infection, neoplasia, obstruction and use of drugs (diuretics, tranquilizer, corticosteroids, alpha and beta adrenergics). The classical sign however of USMI is the loss of urine during sleep or recumbency.

Publication Type
Journal article.

The physiopathology of urinary incontinence is reviewed. Moreover, the diagnostic approach in such cases is outlined. Focus is given on the aetiology and diagnosis of canine urinary incontinence.