INDIANAPOLIS VETERINARY REFERRAL

AAHA AMERICAN ANIMAL HOSPITAL ASSOCIATION

MAY 2012
CASE STUDY

Signalment:
3 month old, female, Chihuahua, weight 1 lb.

History:
The owner had bought the puppy in Texas three weeks prior to presentation. One week after purchase, the puppy started scooting and produced small droplets of loose stool while posturing to defecate. The puppy was seen by a veterinarian two days later when the 3rd DHLPP vaccine was administered and Albon was prescribed. The records did not indicate a fecal had been performed. The stools appeared to improve for two days. On the third day after vaccination, the puppy was screaming when posturing to defecate. The owners had noted a firm swelling to the region of the anus which was sensitive upon palpation. A second veterinarian was consulted regarding the condition that identified fecal impaction to the colon and rectum. Enemas were given to relieve the impacted stool. Within 48 hours the condition had returned and the patient was referred to Indianapolis Veterinary Referral for assessment.

Table 1

CBC	August 10	
Tests	Results	Ref. Range/Units
WBC	11.2 10^3/mm^3	6.0-17.0 10^3/mm^3
RBC	6.88 10^6/mm^3	5.50-8.50 10^6/mm^3
HGB	14.8 g/dL	12.0-18.0 g/dL
HCT	43.5%	37.0-55.0 %
PLT	406 10^3/mm^3	200-500 10^3/mm^3
MCV	63 µm^3	60-72 µm^3
MCH	21.6 pg	19.5-24.5 pg
MCHC	34.1 g/dL	34.0-38.0 g/dL
RDW	18.5 % (HIGH)	12.0-16.0 %
MPV	9.6 µm^3	6.1-10.1 µm^3

Physical Examination:
The patient had a temperature of 101.8 F with a mild tachycardia (130) with a respiratory rate of 30/minute. The rectum was partially everted and the perineal space was firm, bulging, and uncomfortable when palpated. There was no apparent gross stricture to the ano-rectal region. An open fontanelle was palpable. The remainder of the physical exam was unremarkable.

Work Up:
The patient was hospitalized and was evaluated with a CBC, biochemical profile, fecal, abdominal x-rays, and barium contrast imaging of the colon and rectum under sedation. The stool was removed from the colon and rectum with enemas and digital manipulation. A digital rectal exam was performed.

Table 2

Biochemistry Profile	August 10	
Tests	Results	Ref. Range/Units
ALB	2.9 g/dL	2.1-3.6 g/dL
ALKP	164 U/L	46-337 U/L
ALT	49 U/L	8-75 U/L
AMYL	443 U/L	300-1300 U/L
BUN	14 mg/dL	7-29 mg/dL
Ca	10.7 mg/dL	7.8-12.6 mg/dL
CHOL	149 mg/dL	100-400 mg/dL
CREA	0.3 mg/dL	0.3-1.2 mg/dL
GLOB	2.4 g/dL	2.3-3.8 g/dL
GLU	94 mg/dL	77-150 mg/dL
PHOS	6.2 mg/dL	5.1-10.4 mg/dL
TBIL	<0.1 mg/dL	0.0-0.8 mg/dL
TP	5.3 g/dL	4.8-7.2 g/dL
Na	144 mmol/L	145-157 mmol/L
K	4.2 mmol/L	3.5-5.5 mmol/L
Cl	114 mmol/L	105-119 mmol/L
Fecal Cytology	**August 10**	
Description:	Diplococci, Cocci, Bacillus, few RBCs	
Fecal Flotation	Negative	

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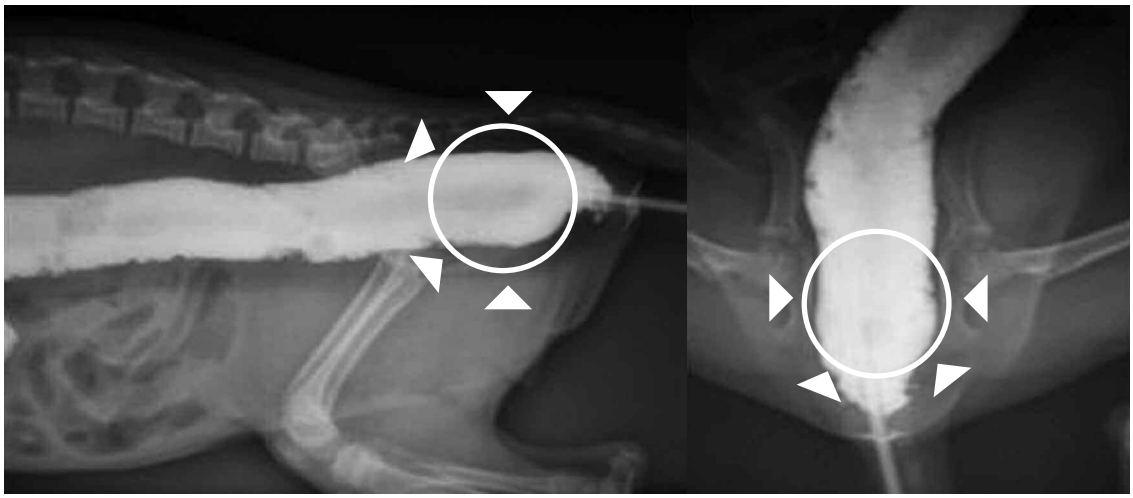
Figure 1 - Plain Film X-Rays

Figure 2 - Postive Contrast X-Rays



Questions:

1. What is your diagnosis?
2. How would you handle this case?
3. Can this patient be helped or not?

Treatment:

The patient was gas induced with isoflurane, intubated and placed on 2% isoflurane for anesthesia. The patient was clipped and positioned for exploratory surgery of the perineal spaces bilaterally. Bilateral perineal hernias were identified due to bilateral aplasia of the levator ani muscles. The perineal nerve was identified and retracted. The obturator muscle was elevated bilaterally, rotated and sutured to the coccygeus and external anal sphincter to close each hernia in routine fashion. The perineal space was irrigated with 0.5cc of marcaine prior to closure for pain control. The perineal fascia was closed with 3-0 PDS and the skin was closed with 4-0 Prolene in a simple interrupted pattern.

The patient was given Unasyn (22mg/kg IV TID), Buprenex (.02mg/kg IV TID) post operatively for 2 days, and was fed a recovery diet mixed with ¼ tsp of Metamucil to keep the stools soft. The patient immediately felt better and had a normal appearing stool prior to discharge. The patient was discharged on Clavamox 6.25mg/kg PO BID, Buprenex 0.02 mg.kg PO TID, with instructions to continue feeding the increased fiber diet offered in the hospital.

At suture removal, the owner reported that the puppy was doing great, was playful, and "was eating them out of house and home." The stools were normal and the puppy was not exhibiting any urgency or tenismus upon defecation. Follow up at 8 months post op showed the puppy to be without symptoms and doing well.

Discussion:

Perineal hernias are common in dogs and rare in cats, and occurs almost exclusively (93%) in intact male dogs over 5 years of age, however the median age for perineal hernia in dogs or cats is 10 years, and short tailed dogs may be predisposed. Perineal hernias in female dogs are usually related to trauma to the perineal region.

Affected animals usually present for difficulty with defecation, although some animals may present as a medical emergency due to retroflexion of the urinary bladder and prostate into the hernia causing urinary obstruction, or circulatory shock from intestinal herniation and strangulation. Owners will often notice a swelling adjacent to the anus associated with clinical signs of constipation, obstipation, dyschezia, tenesmus, or rectal prolapse.

Diagnosis is usually accomplished by palpating a weakened or absent pelvic diaphragm during digital rectal exam with or without perineal swelling, as not all dogs have grossly noticeable perineal swelling. Some bilateral perineal hernias will create swelling surrounding the anus causing it to bulge from rectal deviation containing impacted feces. Imaging of the hernia is usually not needed to diagnose perineal hernia.

The pelvic diaphragm is composed of the paired levator ani and coccygeus muscles. The levator ani muscle is thin and originates from the floor of the pelvis and medial shaft of the ilium, extends along the side of the rectum and inserts on the ventral aspect of the 6th and 7th caudal vertebre. The coccygeus muscle is thick and lays lateral to the thinner levator ani muscle. The coccygeus muscle originates from the ischiatic spine of the pelvic floor and inserts ventrally on caudal vertebrae two through five. The internal obturator muscle is a fan like muscle which originates from the dorsal surface of the ischium and pelvis symphysis, and covers the dorsal surface of the ischium. Its tendon extends across the lesser ischiatic notch to insert on the femur. This muscle is not a part of the pelvic diaphragm, but can be used in the repair of perineal hernia.

What is unusual about this case was the fact that the bilateral perineal hernias were present at 3 months of age in a female dog due to aplasia of the levator ani muscles. The radiographs of this small patient did show a relatively dilated rectum with functional obstipation. Digital palpation under anesthesia did not identify any stricture to the anus or rectum and did identify an absent pelvic diaphragm. Fortunately, the rectum did not have severe diverticula and the remaining coccygeus and obturator muscles were intact and of adequate size to allow an effective repair. Follow up at nearly two years of age showed the patient to be doing well without recurrence, and she also was reported to have had puppies! There was no report of any of the offspring having any congenital pelvic diaphragm abnormalities. Although it was gratifying to know that the repair held up to parturition, it was recommended that they consider having her spayed.

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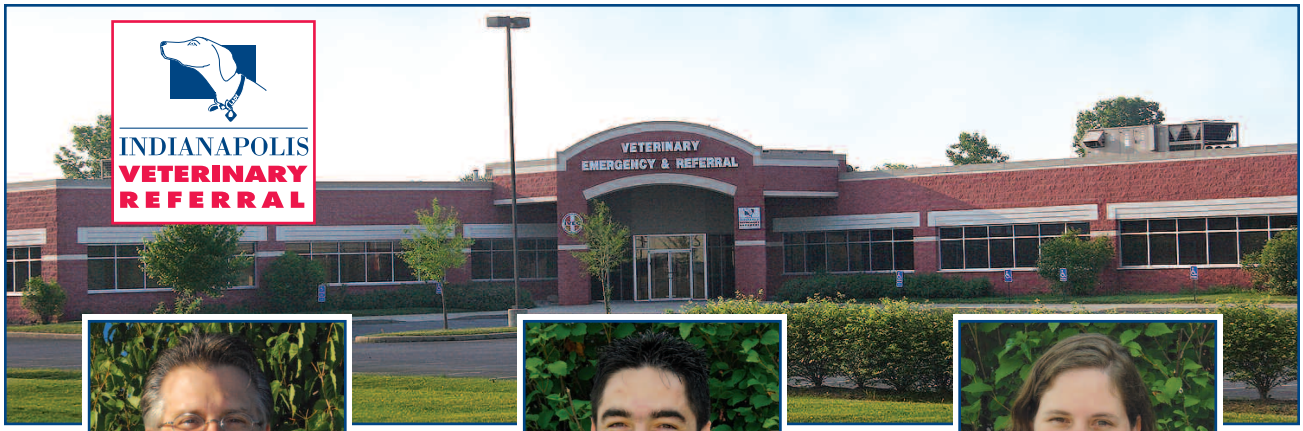
MAY
CASE STUDY

Pets Need Specialists Too



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