

# CORNER DIAGNOSTICO

## Diagnostic Imaging



### CASE PRESENTATION

A 9 years old female entire Lhasa Apso was referred for investigation and treatment of abdominal distension caused by an abdominal mass identified by ultrasound examination. The dog was comfortable on abdominal palpation. Haematology and serum biochemistry were unremarkable. Pre and post contrast-enhanced CT of the thorax and abdomen were performed under general anaesthesia including a triple phase abdominal angiogram (Video 1 and 2, Figure 1 and 2).

The mass was identified in the right uterine horn.

- What are the differential diagnoses for a uterine mass with this appearance?
- What is the name of the sign evident on the transverse



**Video 1**  
Post-contrast arterial phase abdominal CT scan.  
<https://www.scivac.it/it/v/24126/1>



**Video 2**  
Post contrast venous phase abdominal CT scan.  
<https://www.scivac.it/it/v/24126/2>



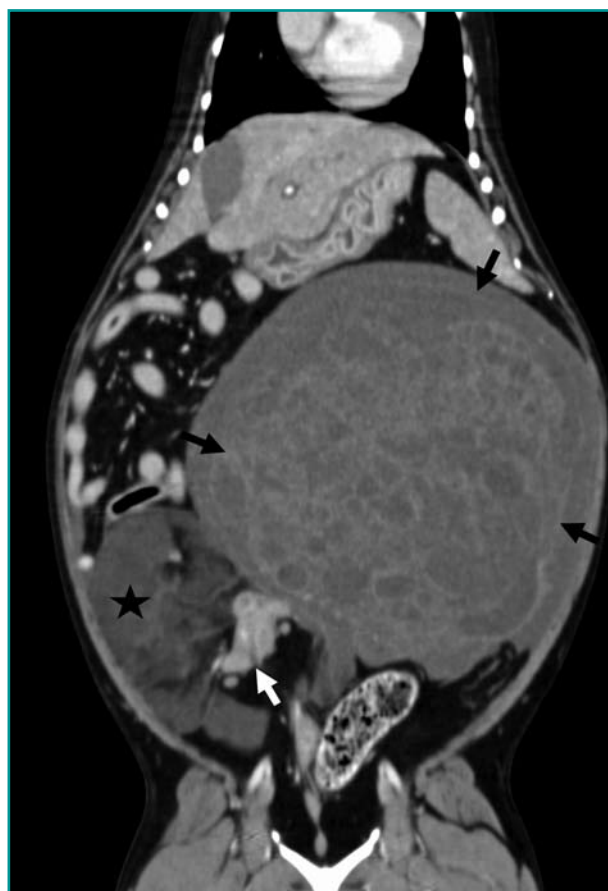
**Figure 1** - Transverse arterial phase CT image of the caudal abdomen.

Alberto Fioletti Med Vet,  
MRCVS Wear Referrals Veterinary Specialist and Emergency  
Hospital, Bradbury, TS21 2ES, UK

Jon Hall MA VetMB CertSAS DipECVS SFHEA FRCVS  
Wear Referrals Veterinary Specialist and Emergency Hospital,  
Bradbury, TS21 2ES, UK

CT scan in Figure 1 (white arrow, check the movies for support) and what does it represent?

- What treatment is indicated for the diagnosis you think is most likely and what prognosis would the animal have?



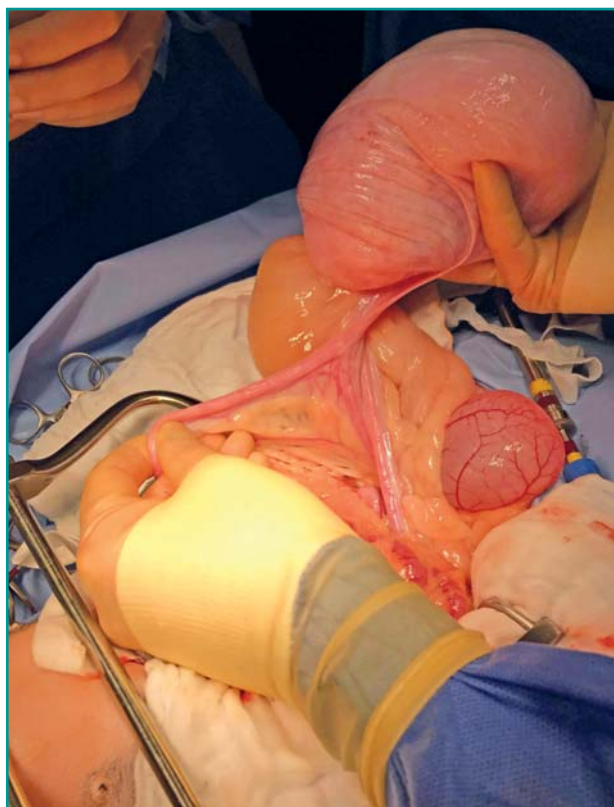
**Figure 2** - Dorsal CT image venous phase of the abdomen with large multi-loculated hypoattenuating mass (black arrows).

## CT FINDINGS

In the left caudal abdomen there was a large, well-defined, rounded, poorly enhancing, multi-loculated hypoattenuating mass with peripheral hypoattenuating band (16 cm x16 cm x 7 cm) (Figure 2). The mass was closely associated with the right uterine horn (Figure 3). There was a whirl-sign of the right uterine horn, right ute-



**Figure 3** - Transverse CT image venous phase of the caudal abdomen showing the large para-uterine mass (black arrows) with close association to the right uterine horn (open arrow) and adjacent mesometrial fluid (star).



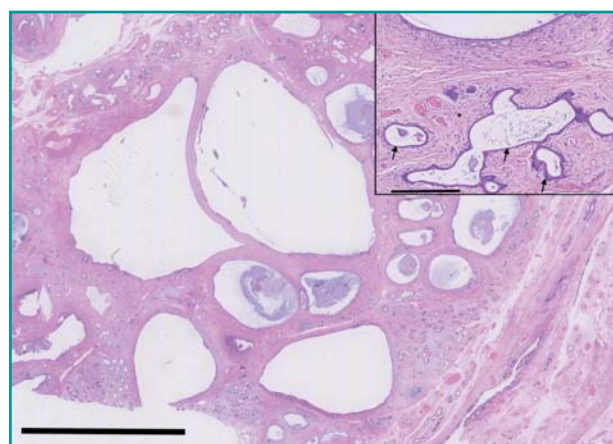
**Figure 4** - Localization of uterine mass on right uterine horn, just cranial to uterine body.

rine artery and vein, and part of the left uterine horn immediately cranial to the uterine body (Figure 1, Video 1 and 2). The right gonadal vein was diffusely dilated and there was a large focal accumulation of fluid within the right caudal abdomen suspected to be contained within the mesometrium with surrounding fat stranding. Considering the CT findings, the most likely differential diagnosis in this patient was a uterine torsion predominantly affecting the right uterine horn, associated with large cystic para-uterine mass with mesometrial oedema and focal peritoneal effusion. The differential diagnoses for the para-uterine mass were neoplastic such as leiomyoma or leiomyosarcoma; or benign such as an endometrial polyp, abscess or granuloma.

## FOLLOW UP AND DISCUSSION

The dog subsequently had a midline coeliotomy, confirming the CT findings, and total ovariohysterectomy was performed (Figure 4). The uterus and ovaries were submitted for histopathology and the large mass originating from the right uterine horn was diagnosed as an endometrial polyp (Figure 5). The dog recovered uneventfully from the surgical procedure and was discharged the following day.

Uterine torsion is an uncommon condition in dogs and it's been described in both pregnant and non-pregnant bitches.<sup>1-2</sup> The use of computed tomography and in particular contrast-enhanced studies with different phases is particularly helpful in determining the origin of large abdominal masses and diagnosing an organ torsion. The presence of whirling vessels defined as a whirl sign has been described previously and it is associated with the torsion of an organ alongside his axis.<sup>3</sup> Although uncommon, endometrial polyps can be a cause of uteri-



**Figure 5** - Histological appearance of the endometrial polyp, protruding into the lumen of the uterus, scale bar 5 mm. Inset: numerous dilated glandular structures (arrows) lined by a single layer of epithelial cells, scale bar 250 µm. Haematoxylin and eosin stain.

ne horn torsion and abdominal enlargement in dogs, which result in characteristic imaging findings as described here, underlying the importance of computed tomography to achieve a diagnosis in these cases. Ovariohysterectomy is considered to be curative for these benign lesions.

The authors have no conflicts of interest to declare

## REFERENCES

1. Darvelid AW, Linde-Forsberg C. Dystocia in the bitch: A retrospective study of 182 cases. *Journal of Small Animal Practice*. Aug;35(8):402-7, 1994.
2. Cordella A, Mezzalana G, Negro L, *et al.* Unilateral uterine torsion in two non gravid bitches: Imaging and histological features. *Veterinary Record Case Reports* [Internet]. Mar [cited 2022 Jan 28];9(1), 2021. Available from: <https://onlinelibrary.wiley.com/doi/10.1002/vrc2.20>
3. Hughes JR, Johnson VS, Genain M. CT characteristics of primary splenic torsion in eight dogs. *Veterinary Radiology & Ultrasound*, May;61(3):261-8, 2020.



## CERCHI-OFFRI LAVORO?

Il servizio è telematico, libero e gratuito. **Vet-Job** prevede l'utilizzo di un archivio on-line compilato e aggiornato dagli stessi medici veterinari che cercano oppure offrono proposte di lavoro. Il portale registra più di 50.000 visite mensili, con una media di 300 annunci al mese.

Per inserire la propria offerta o richiesta di lavoro è necessaria la registrazione al servizio. Al termine della registrazione il sistema fornirà all'utente un codice che, insieme alla password, consentirà di accedere all'area riservata per modificare/integrare/rimuovere le proprie inserzioni e la scheda dati personale.

Le inserzioni permangono in rete per 90 giorni; alla scadenza di questo periodo vengono rimosse automaticamente.

Registrazione e condizioni d'uso dettagliate al sito:

<http://www.vetjob.it/>

