**CASE OF INTEREST**

A case of hepatic arteriovenous fistula in a dog.

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A 6 months old male Cocker Spaniel presented with acute onset lethargy, vomiting, diarrhoea and anorexia with a history of weight loss, ascites and neurological signs.

A right divisional intrahepatic portosystemic shunt was diagnosed via doppler ultrasonography. Gross visualisation of the liver on laparotomy revealed an abnormal appearaing right medial lobe with parenchymal atrophy and contained numerous tortuous thin walled pulsatile vessels and an artiovenous fistula was suspected. The lobe and vessels were resected and submitted for histopathological examination (fig 1).

![Figure 1. Low power view of cross section of liver lobe. HE Stain.](image)

Histological examination revealed a portion of liver. This displayed marked alteration in the hepatic architecture. There were frequent large caliber arteries and arterioles composing most of the liver lobule displaying anastomosis, on occasions, with large caliber veins and venules (Fig 2).

![Figure 2. Histological section of liver displaying a large artery (arrowheads) with branches of anastomosing vessels and marked congestions of the surrounding parenchyma. HE Stain.](image)

Affected vessels had irregularly thickened walls and intimal hyperplasia, sub-intimal fibromuscular proliferation and medial smooth muscle hyperplasia. Thrombosis was not evident. There was atrophy of the hepatic sinusoids with perportal fibrosis and biliary duct hyperplasia, arteriolar proliferation and collapse of portal veins within portal tracts. The hepatic sinusoids also displayed congestion and there were areas of parenchymal haemorrhage.

![Figure 3. Histological section of liver with a large artery on the left and a vein centrally and right with atrophic liver parenchyma in between. HE Stain.](image)

Hepatic arteriovenous fistulae (HAVF) are uncommon, generally numerous, anomalous connections occurring in a parallel array between the hepatic artery and the portal vein. Congenital HAVF result from a focal failure of the differentiation of the embryological vascular system into capillary, arterial or venous structures. Occasionally, however, they are not congenital, but the result of trauma or surgery or even rupture of hepatic artery aneurisms or secondary to hepatic vein obstruction or cirrhosis with extreme portal hypertension. HAVF confer arterial high pressure blood to the otherwise venous low pressure portal system. The subsequent portal hypertension leads to the formation of collateral veins.

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**JOURNAL Articles** (with e-links)


Gastrointestinal (GI) lymphoma is the most frequently diagnosed form of lymphoma in the cat and is categorized into two distinct forms based on the size of neoplastic lymphocytes. Treatments for both large- and small-cell GI lymphoma have been described previously; however, multiple chemotherapy protocols were used, a minimal amount of histopathological characterization was provided, and, in most studies, the majority of diagnoses were obtained via endoscopic pinch biopsies. Twenty-eight cats (24 with full-thickness intestinal biopsies) were diagnosed with small-cell GI lymphoma and treated with a combination of chlorambucil and glucocorticoids. The majority of cases were strongly CD3+, and many displayed epitheliotropism. The overall clinical response rate was 96%, with a median clinical remission duration of 786 days. Follow-up identified seven cats with relapsed disease-all of which were treated with a rescue protocol of cyclophosphamide and glucocorticoids; the response rate was 100%, and four of the 28 cats were diagnosed with a second malignancy.


A 6-year-old, spayed female Labrador retriever was presented with clinical signs of stranguria, pollakiuria, and hematuria of 12 weeks' duration. A bacterial urinary tract infection, diffuse polypoid cystitis, and emphysematous cystitis were diagnosed. Antibiotic therapy combined with extensive resection of the mucosa and submucosa associated with polypoid lesions resulted in complete resolution of clinical signs and resolution of the remaining polypoid lesions. Polypoid cystitis is an uncommon but clinically relevant and reversible condition of the urinary bladder. Resection of mucosa and submucosa of the urinary bladder in dogs with polypoid cystitis may be a useful surgical treatment and can be considered as an alternative to partial cystectomy or mucosal resection.


Soft tissue sarcomas (STSs) develop from mesenchymal cells of soft tissues, and they commonly occur in the skin and subcutis of the dog. Although phenotypically diverse with frequently divergent histogenesis, STSs are considered as a group because
which are multiple acquired extrahepatic portosystemic shunts (MPSSs). The hepatic artery is connected to the portal vein through the fistulae, conferring the high arterial pressure to the portal vein at the site of the fistula, exceeding the portal pressure further distally in the vein. This situation favours retrograde flow in the distal portal vein, leading to portal vein hypoplasia.

Congenital HAVF have a mean age at diagnosis of seven months (range four months to 13 months), of various breeds, and without a gender predisposition. The fistulae are often multiple and can be distinctly visualised by abdominal colour Doppler ultrasonography and coeliac arteriography. Clinical signs associated with congenital HAVF usually have an acute onset and include lethargy, vomiting, diarrhoea, anorexia, weight loss, ascites, polyuria and neurologological signs related to hepatic encephalopathy. Abnormal laboratory findings usually include hyperammonaemia, hypoproteinaemia, hypoalbuminaemia and an increased total bile salts concentration. The choice of treatment for HAVF consists of total surgical resection of the affected liver lobe and was performed in this case. Banding of the vena cava just caudal to the liver has also been used in order to restore a positive cava-portal pressure gradient. It is reported that the portal vein hypoplasia is generally not corrected following surgical resection of the lobe.

References:

SIDE STORY

Advocate Spot-On for treatment of demodecosis

Bayer Animal Health has announced that its parasiticide Advocate Spot-On Solution - is now licensed to be used weekly, and for a prolonged period of time, in severe cases of demodecosis in dogs.

According to the company, recent work carried out to obtain the new weekly indication shows a number of benefits of this increased application frequency for severely affected animals. Dogs treated on a weekly basis showed a greater reduction in mite numbers, fewer clinical signs, and improved hair regrowth and weight gain over the trial period, when compared to dogs treated monthly.

Click here for further information

SIDE STORY

A Merry Christmas and Happy New Year!

As has been our policy for many years we are not sending Christmas cards this year, but instead we are donating the money to charity. We have made a donation to the St Martins in the Field charity (The Vicker’s Fund), which is a large nation-wide charity which provides small amounts of money for individuals and families to help them over a particularly difficult time in their lives and this is was also the Radio 4 yearly Christmas charity last year. It often only requires a small amount of money to prevent a bad situation becoming very much worse for individuals and families.

We thank you for your custom and once again, we hope the New Year is a prosperous and happy one for you all.

Trevor & All the staff at Abbey Veterinary Services

CYTOLOGY TIPS

Intestinal tract

- Cytology is quick and cheap but lacks the ability to gain information about architectural changes and is most often limited to pathogens, type of inflammation or neoplasia.
- PNA - Quick, easy, non-invasive, minimal equipment but largely restricted to mass lesions.
- Endoscopic brushings - Direct visualisation of mucosal lesions endoscopically and good sampling of the epithelium is achieved but only samples areas accessible to an endoscope and requires sedation/anaesthesia.
- Impression smears via endoscopic biopsy - direct visualisation of lesions and less invasive than biopsy but unlike biopsy it only samples superficial layers and limited again by reach of endoscope and more limited information compared with biopsy. Cytology and biopsy material can both be prepared from the same samples, crush artefact is a problem.
- Impression smears of full thickness surgical biopsy - All layers can be examined and better sample quality but is the most invasive method and requires a GA and is most expensive. A biopsy and cytology can be prepared from the same sample but the same drawbacks apply.

OUR DETAILS

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