

Splenectomy of a giant torsioned haemangiosarcoma in a dog

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Haemangiosarcoma (HAS) is an aggressive, malignant, highly metastatic and the most commonly found splenic tumour in dogs, accounting for 51-66% of all splenic neoplasms (Spangler and Culbertson, 1992; Clifford *et al.*, 2000). The splenic neoplasia typically affects older, large-breed dogs like German shepherd, Labrador Retrievers and Golden Retrievers. Radiography and ultrasonography are routine screening modalities for small splenic lesions, but contrast-enhanced computed tomography (CECT) is an extremely helpful preoperative tool for the characterization of large lesions (Lairmore and Khanna, 2014). The present case describes the importance of CECT for characterizing the splenic mass and its successful surgical correction in a Golden Retriever dog.

A Golden Retriever dog aged six and half years was reported with the anamnesis of anorexia, frequent vomiting, labored breathing and progressively enlarged abdomen. Previously, the animal was treated with conventional and symptomatic therapy without any positive response.

Abdominal radiograph revealed severe splenomegaly, occupying almost 80% of the abdomen. Ultrasonographic findings showed heterogeneity as hyperechoic and margin of spleen was irregular. *CT scan* showed hypo-attenuating mass, which was in contact with liver, kidney and stomach (Fig. 1). Origin of the mass was not clear; however, splenic lobes appeared torsioned (Fig. 2). Based on the findings, a tentative diagnosis of tumour with torsion of spleen was made. With owner's consent, it was decided to perform remedial surgery.

The animal was premedicated with atropine sulphate (0.04 mg/kg body wt, s.c.) and xylazine HCl (1 mg/kg body wt. i.m.). Induction and maintenance of anaesthesia was done with ketamine HCl (5 mg/kg body wt. i.v.). The animal was positioned in dorsal recumbency and prepared for aseptic surgery. Midline abdominal incision was made for the exploration of abdomen. Laparotomy revealed dark colored severely distended spleen extending from xiphoid to pubis. Adhesions of spleen were gradually removed and

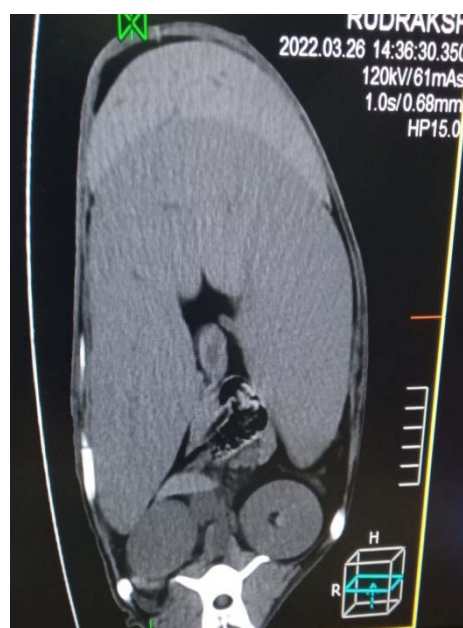


Fig. 1: CT scan section showing the severely enlarged spleen.



Fig. 2: CT section showing the torsioned spleen.

exteriorized, tumour mass was found on the spleen caudo-cranially. Diameter of spleen measured 2.1 feet from cranial to caudal, and 15-20 cm variable at different sites and weighed 4.9 kg. Hilus was located

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and splenic, pancreatic and epigastric arteries were identified and ligated by placing double clamps. Subsequently, the small gastric branches supplying the gastric fundus were transfixed, all the splenic arteries were sutured, and splenectomy performed. Lukewarm normal saline 200 mL mixed with 1 mL amikacin antibiotic was dropped time to time over the organs, and all the three splenic stumps were checked for any haemorrhage. The abdominal incision was then closed in routine manner. Muciprocin ointment was applied at the incision site after suturing.

Postoperatively, inj. ceftriaxone (25 mg/kg body wt, i.v.) was given for 7 days to avoid any secondary infections. Anti-inflammatory and analgesic drug, meloxicam was given (0.5 mg/kg body wt, i.v.) for 5 days, inj. VetPlasma (10 mL/kg, i.v.), inj. Ondansetron (0.5 mg/kg body wt, i.v.) and inj. Feritas (10 mg/kg body wt, i.m.) for 5 days. Sutures were removed on 12th postoperative day. Histopathological examination of the spleen tissue revealed fibrohistiocytic nodule of grade II composed of histiocytic cells, macrophages filled with haemosiderin (Fig. 3). Lymphocytic hyperplasia distorting the lymphoid follicular architecture with marked nuclear pleomorphism were suggestive of haemangiosarcoma.

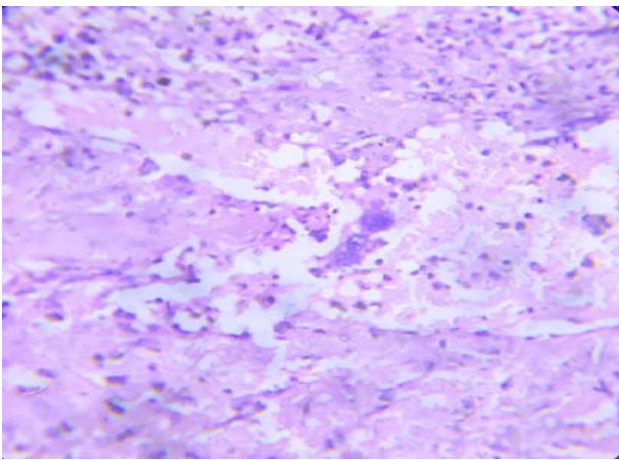


Fig. 3: Fibrohistiocytic nodule of the spleen (grade II); the interfollicular tissue composed of histiocytic cells, macrophages filled with haemosiderin (H & E stain, 40X).

Clinically haemangiosarcoma patients show regenerative anaemia, hypoproteinaemia, thrombocytopaenia and neutrophilic leukocytosis on haematobiochemical examination. These dogs often have abdominal distension and haemoperitoneum without history of recent trauma or coagulopathy (Clifford *et al.*, 2000) as in this case. On radiograph, usually spleen remain masked or superimposed with left liver lobe and make it difficult to distinguish from liver pathology, and ultrasonography helps clinicians to distinguish the origin of the lesion (Nyland *et al.*, 2002). Microscopic lesions such as hyperplasia of lymphoid cells, distortions follicular architecture with marked nuclear pleomorphism and necrosis of splenic tissue were suggestive of haemangiosarcoma (Spangler and Kass, 1997). In present case, splenic lobes were torsioned along with splenomegaly, leading to severe adhesions necessitating splenectomy (Stringel *et al.*, 1982).

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