**Introduction**

Haemangiomas are benign tumours of the vascular endothelium (4–6). Most haemangiomas are well circumscribed and are composed of variably sized vascular spaces. These spaces are filled with erythrocytes and are lined by a single layer of uniform endothelial cells. These tumours have been called cavernous or capillary tumours (5). Haemangiomas are common in older dogs but infrequently occur in other domestic animals (5). Haemangiomas can be seen in very young horses, usually on the distal limbs (4). They are most common in the dermis and subcutis, especially of the legs, flank, neck, face, and eyelids (5).

This report describes a cavernous haemangioma in the left ventricle in a 5-day-old female Simmental calf.

**Case report**

**History**

A calf was brought to our department for necropsy 8 hours after death. According to the animal’s owner, the calf became depressed and had diarrhoea for a day before it suddenly died. After this information a systemic necropsy was performed.

**Necropsy and histopathological findings**

No macroscopic findings were noted except for congestion of the intestines and a mass in the the heart. This encapsulated, roughly spherical mass was located in the left ventricle tightly bound to the endocardium. It had a dark brown colour and measured $2.7 \times 2.9 \times 2.3$ cm (Fig. 1). Its cut surface was mostly dark in colour.

The heart with this mass was fixed in 10% neutral phosphate-buffered formalin, trimmed and dehydrated in a graded series of ethanol, and embedded in paraffin wax. Sections (4–5 μm) were cut and stained with haematoxylin and eosin (HE) and examined with an Olympus BX-51 light microscope. Microphotographs were also taken (Olympus DP 25). Some representative sections were also stained with Masson’s trichrome.

Microscopically, the ventricular mass was characterized by large, irregular blood-filled spaces lined by endothelial cells.
Cardiac haemangiomas can occur in any part of the heart, but they are most commonly seen in right-sided cardiac chambers in man (7, 11). We found rare reports in the literature for animal cardiac tumours. Sugiyama et al. (13) detected cardiac vascular hamartomas in two slaughtered cattle. In a retrospective study in Japan Une et al. (15) described 44 cardiac angioleiomyoma in cattle ranging from 10 to 129 months old.

Due to the age of this calf, it could easily be assumed that this tumour had developed before birth. The histopathological investigation confirmed that this neoplasia could be clearly distinguished from a capillary haemangioma, a haemangiosarcoma and a malignant haemangioendothelioma. In the cavernous haemangioma, the large blood-filled channels lined by endothelial cells were separated by fibrous connective tissue (4).

To the best of the author’s knowledge, this is the first report of a haemangioma cavernosum in the left ventricle of a newborn Simmental calf.

Conflict of interest

The authors confirm that they do not have any conflict of interest.

References


Fig. 3  Cavernous haemangioma: tissue stroma, which can contain lymphocytes (arrow heads) and haemosiderin-filled macrophages (arrows). (H&E stain; bar = 50 μm).

Fig. 4  Cavernous haemangioma: The large vascular channels are separated by a fibrous connective tissue stroma (Masson’s trichrome stain; bar = 100 μm).