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INTRODUCTION

Here we describe the clinical-pathological aspects of systemic amyloidosis and nephrotic syndrome in a dog with a concurrent liver sarcoma.

MATERIALS AND METHODS

An 8-year-old male castrated crossbreed dog was presented to the FMVZ-UNAM teaching hospital with abdominal distension and proteinuria. Blood count, clinical chemistry, ultrasound and an incisional renal biopsy were performed¹. Due to worsening of clinical signs, euthanasia was elected and a complete post mortem and a histological examination were carried out.

RESULTS

Clinically, the dog presented with ascites, hypertension and hyperechoic lesions in the liver. Laboratory tests showed non-regenerative anaemia, hypercholesterolaemia, hypoproteinaemia and severe proteinuria, consistent with nephrotic syndrome². The renal biopsy showed glomerular amyloidosis³. During the following five months the patient received treatment to control hypertension and thrombosis and was supplemented with oral albumin² but deteriorated progressively and euthanasia was elected. The post mortem examination revealed systemic amyloidosis, a spindle cell sarcoma in the liver, and pulmonary thrombosis. The amyloid was resistant to permanganate treatment prior to the Congo red stain, which was consistent with AA amyloidosis⁴.

CONCLUSIONS

Although AA amyloidosis is associated with systemic inflammation⁴⁻⁶, it is known that patients with malignant neoplasms may develop high levels of serum amyloid A (SAA) leading to systemic amyloidosis^{7,8}. Information on the association between cancer and amyloidosis is scarce, but it is possible that liver sarcomas might represent a source of amyloid, as it has been reported human medicine⁸. In the present case, pulmonary thrombosis was likely related to loss of proteins through the kidney due to vascular leakage as a consequence of amyloid deposition².

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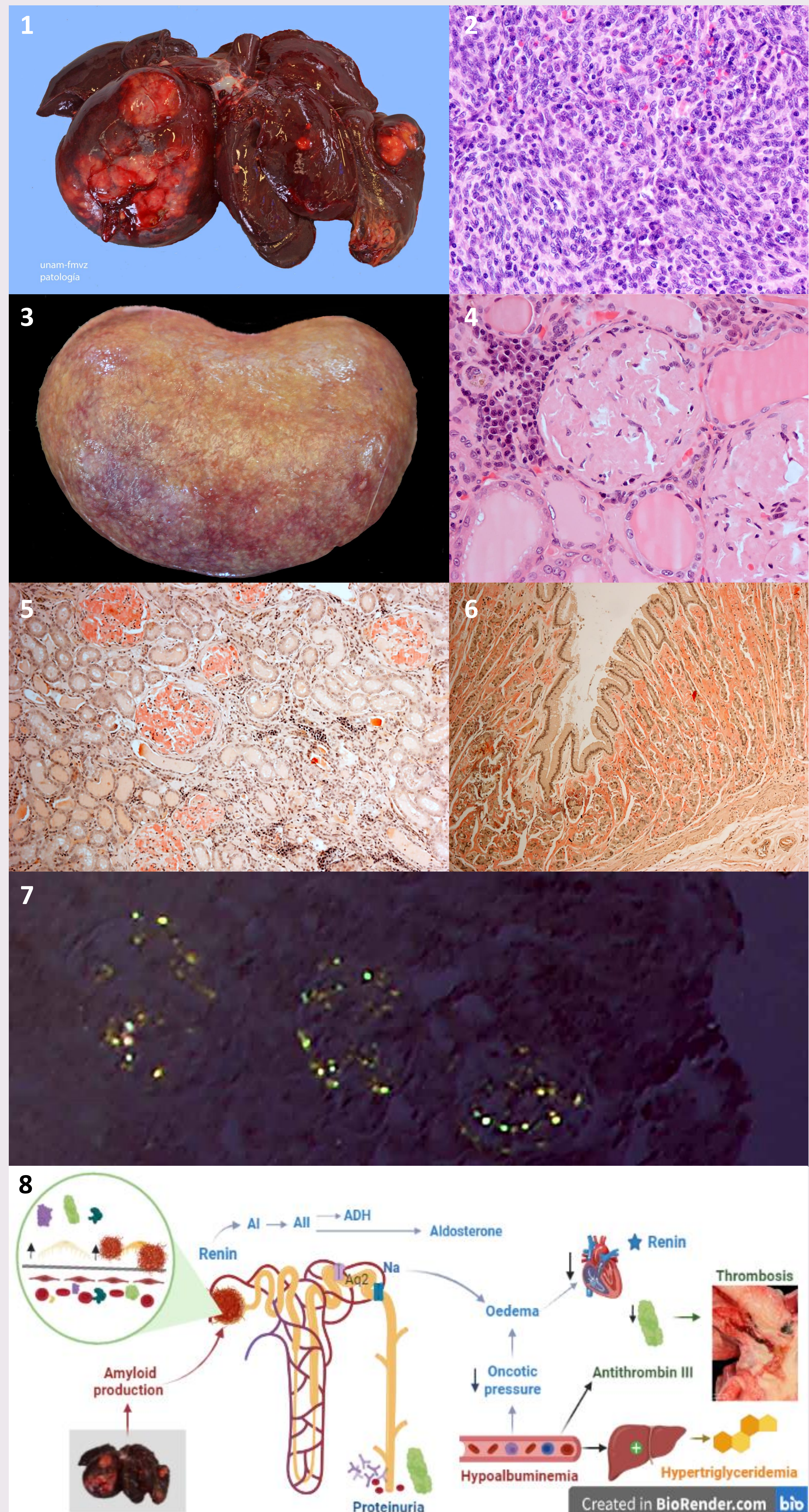


Figure 1. Sarcoma affecting 70 % of the liver. **Figure 2.** Histological section of an interwoven spindle-shape tumor cells replacing the liver. Hematoxylin and eosin (H&E) stain, 40x. **Figure 3.** The cortical surface of the kidney is pale with finely stippled appearance. **Figure 4.** Histological section of glomeruli where it is evident the presence of eosinophilic and homogeneous extracellular material consistent with amyloid. H&E stain, 40x. **Figure 5.** The amyloid stains orange-red. Congo red stain, 10x. **Figure 6.** The amyloid in lamina propria of the stomach stains orange-red. Congo red stain, 10x. **Figure 7.** Amyloid exhibits green birefringence in polarized light. Congo red stain. **Figure 8.** Nephrotic syndrome pathogenesis created with BioRender.com.