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CRANIECTOMY IN TWO DOGS WITH BONY TUMOURS OF THE SKULL

Introduction

Bony tumours of the canine skull are rare and present with clinical signs depending on tumour location and expansion [1,2]. Two dogs with a tumour of the skull, illustrate the clinical variety of these tumours and the possibility to diagnose and treat them.

Case Description

Case 1 was a 6-year-old dog with vestibular ataxia. Magnetic resonance imaging (MRI) showed a mass of 26x35x10mm arising from the occipital bone (Fig. 1), compressing the cerebellum and the brainstem. Case 2 was a 2-year-old dog with a lump on the right forehead. Computed tomography (CT) showed a lobulated mass of 42x44x51 mm arising from the right frontal sinus (Fig. 2), compressing the cerebral hemispheres. In both dogs, no evidence of metastasis was detectable.

Results

Tumour excision was performed via suboccipital (case 1) and transfrontal sinus craniectomy (case 2). The dura mater was opened for tumour removal in both dogs (Fig. 3). Dural defects were repaired with a fascia lata transplant and no prosthetics were used to fill up the calvarial defects. The tumours were histologically characterised as a multilobular osteochondrosarcoma (case 1) and an osteoma (case 2). Postoperative CT of the excised tumour (case 2) allowed evaluation of completeness of tumour excision. MRI of the skull in case 1 at 3 months follow-up revealed incomplete tumour excision. Follow-up examination showed no neurologic deficits in both dogs and survival of 7 months (case 1) and 3 months (case 2) at the time of writing.

Discussion/Conclusion

Tumours of the bony calvarium grow slow and compromise neural tissue with inward expansion [1,2]. With low grades of metastasis, complete or near-complete removal will resolve clinical signs. Both tumours presented in a similar way with a different histological diagnosis. This emphasizes the importance of follow-up imaging and evaluation of the remnant tumour over time.

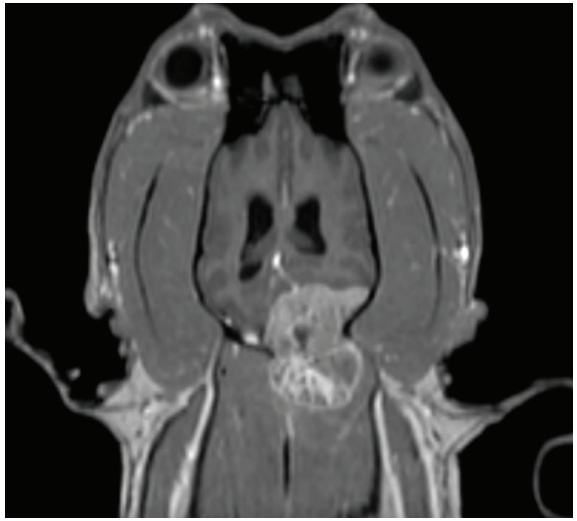

Fig. 1: MRI of case 1 shows a large mass originating from occipital bone with inward expansion to the the cerebellum.

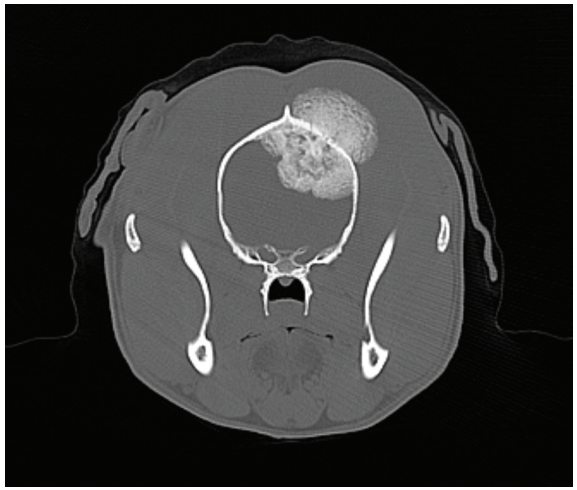

Fig. 2: Computed tomography of case 2 shows a large mass at the height of the skull bone with inward expansion and compression of the cerebral hemisphere.

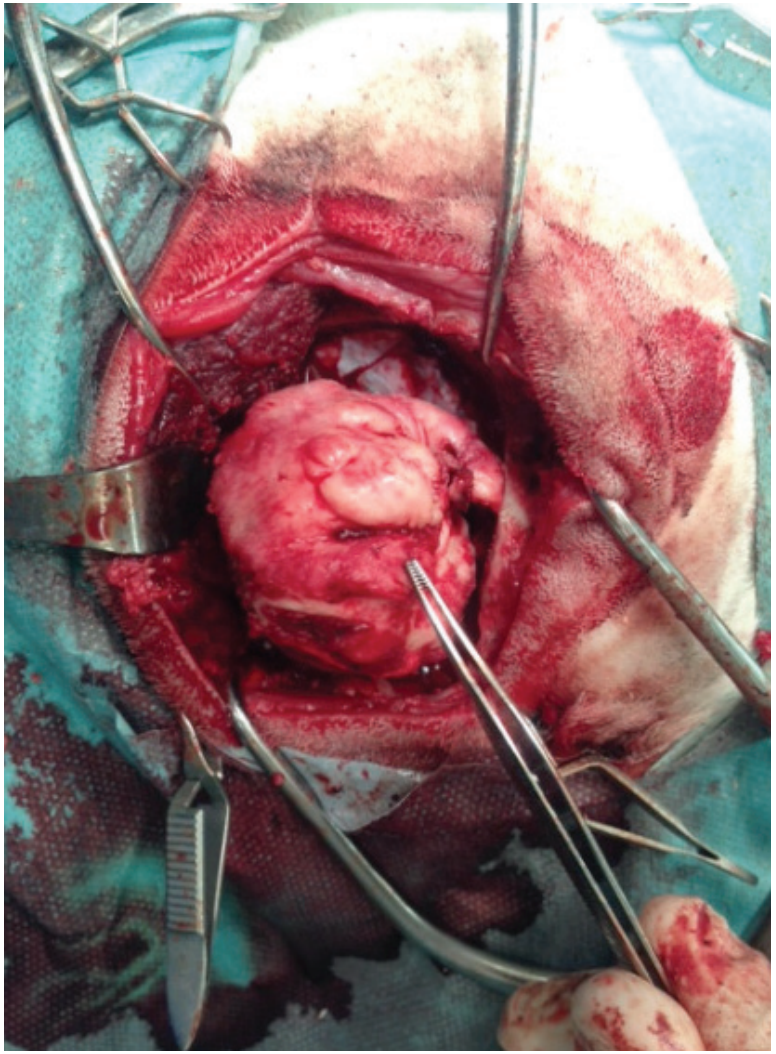

Fig. 3: The bony tumour of case 2 exposed during craniectomy just before removal.

References

1. Dernell WS, Straw RC, Cooper MF, Powers BE, LaRue SM, Withrow SJ. Multilobular osteochondrosarcoma in 39 dogs: 1979-1993. J Am Anim Hosp Assoc. 1998; 34(1): 11-8
2. Besalti O, Caliskan M, Atalay Vural S, Algin O, Ahlat O. Imaging and surgical tumors of spinal tumors in 18 dogs and one cat. J Vet Sc. 2016; 17(2): 225-234