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Treatment of Glioblastoma with Partial Resection and Temozolomide in a dog

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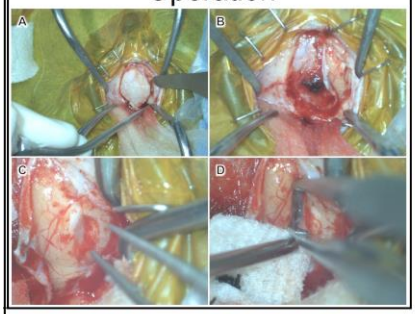
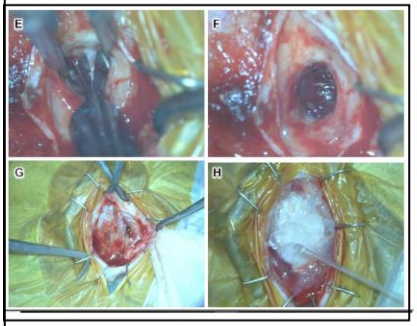
Abstract: A 2.2kg eleven-year-old female Chihuahua dog with body surface area approximately 0.15m2 was collapsed from a seizure for the first time, and was transferred to our animal emergency center on the next day. On magnetic resonance imaging (MRI), a mass 5mm in diameter in the left frontal lobe of the cerebrum was found. The mass was partially resected, and was diagnosed with glioblastoma by histopathological examination on postoperative day (POD) 2. We suggested a combined chemotherapy and radiotherapy, but the owner chose the chemotherapy alone. Thus, Temodal® (Temozolomide) was prescribed in a dose of 150mg/m2/d by constant rate infusion for 1.5hr daily for 3 days, and was changed to Temozolomide Tab.® (133mg/m2/d) given orally once on each POD 15 and 26. On POD 37, the increase in mass size was not observed on MRI, and only mild side effects of the chemotherapy were showed. Therefore, the dose was increased to 133mg/m2/d orally for 2 days every 14 days from POD 40. Since the seizure recurred on POD 87, MRI reexamination was performed. Although the increase in mass size was observed, the owner did not choose our multiple chemotherapy regimens but Temozolomide alone. To the best of our knowledge, this is the first case report of treating glioblastoma with partial resection and chemotherapy in dog in a private animal emergency center in Japan, and describes the glioblastomas inhibited by Temozolomide as expected.

Operation

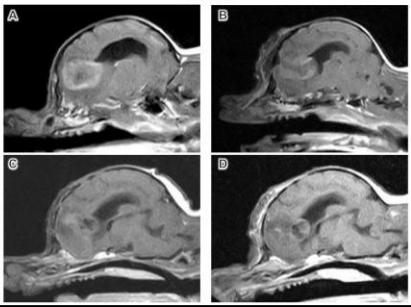


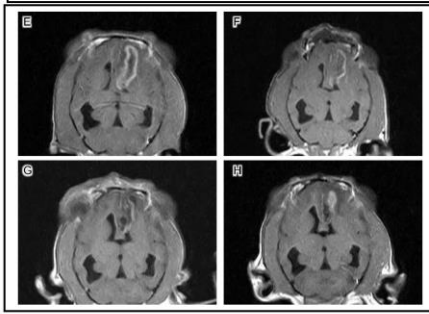


Chemotherapy

- Hospitalization
  Temodal® (Temozolomide) 150mg/m²
  CRI, 1.5h, SID for 3 days
- Discharge
  Temozolomide Tab.® 133mg/m²
  In the 1st month
  1 tab, SID for 1 day, every 10 days
  After the 1st month
  1 tab, SID for 2 days, every 14 days

MRI



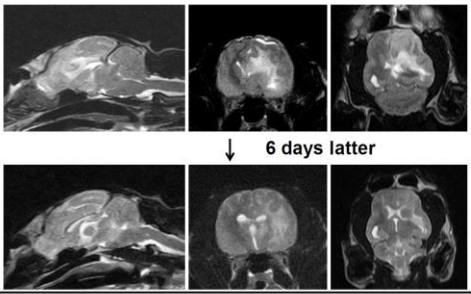


Brain surgeries in ER Nerima

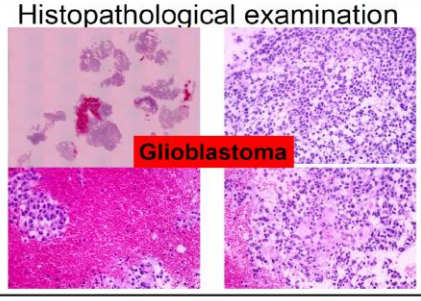
Brain surgery	Rate of procedural success (cases)	Discharge rate
Glioblastoma	100% (1)	100%
Glioma	100% (3)	33%
Meningioma	100% (18)	89%
Hematoma	100% (9)	89%
Granulomatous meningo encephalomyelitis	100% (3)	100%
Histiocytic sarcoma	100% (2)	100%
Lymphoma	100% (2)	100%
Other	100% (6)	83%
Total	100% (44)	86%

2013/4/1 ～ 2018/10/31

Conclusions



Histopathological examination



Postoperative Management