

Treatment of recurred hemangiopericytoma

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Introduction

- Solitary fibrous tumor/Hemangiopericytoma compose a group of tumors that are characterized by two distinct histologic subtypes that share a common genetic feature, namely the NAB2-STAT6 fusion gene.
- The new combined term adopted by the WHO in the latest 2016 classification of CNS tumors is solitary fibrous tumor/hemangiopericytoma - Grade 1, 2, 3
- In the field of neurosurgery, Hemangiopericytoma is presented with symptom and signs related to mass effect, such as headache, and neurological symptoms(hemiparesis, speech disturbances, visual loss)
- And Hemangiopericytoma has a high risk of recurrence, so radiation therapy should be actively considered.
- In this study, we present a case of Hemangiopericytoma and discuss its characteristics.

Case

70-year-old man who was admitted with a right leg motor weakness that was initially noticed 3 months prior.

Computed tomography(CT) showed well-enhancing extraaxial mass(about 36x40x34mm) in parasagittal region

MRI showed multiple small cystic well-enhancing extraaxial mass with intratumoral prominent signal void structures, direct bony marrow invasion to adjacent bony calvarium

Based on the above diagnosis, tumor removal surgery was performed in 2011, and HPC Grade 3 was diagnosed based on the pathological examination performed.

f/u MRI showed HPC recurrence, GKRS was performed 4 times in 2016, 2017, 2020, and 2021.

In 2022.04, tumor removal reop was performed due to multiple recurrences.

And f/u MRI showed HPC recurrence, GKRS was performed 3 times in 2022.11, 2023.02, and 2023.04.

The patient had general weakness, seizures, weight loss, and ascites, and a PET CT scan showed multiple hepatic and pulmonary metastases, multiple bone metastases in left humerus, both pelvic bones, and both femurs.

He was maintained in palliative care and expired

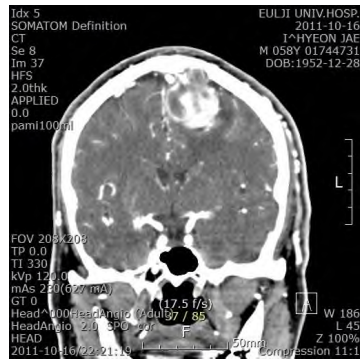


Fig. 1. 2011.11

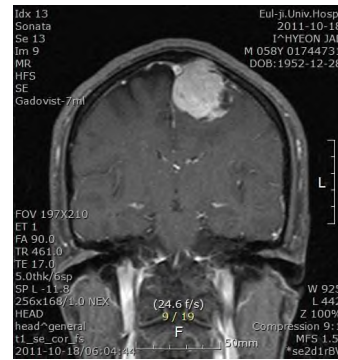


Fig. 2. 2011.11



Fig. 3. 2016.03

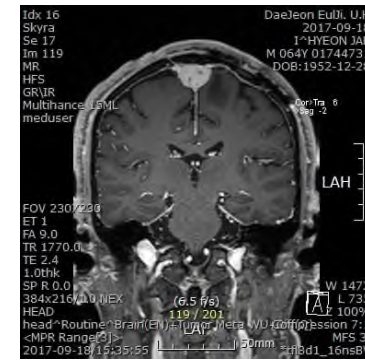


Fig. 4. 2017.09

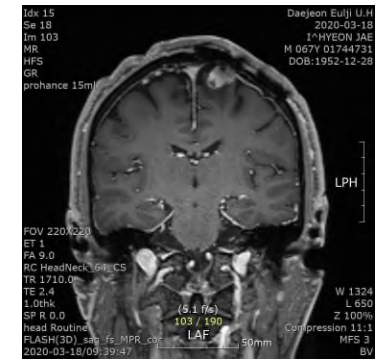


Fig. 5. 2020.03



Fig. 6. 2021.09



Fig. 7. 2022.04

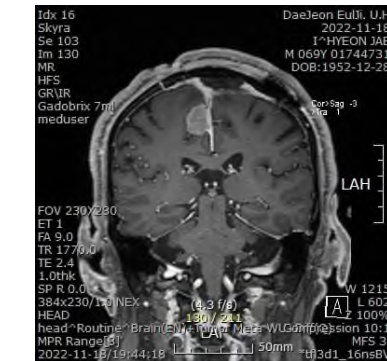


Fig. 8. 2022.11

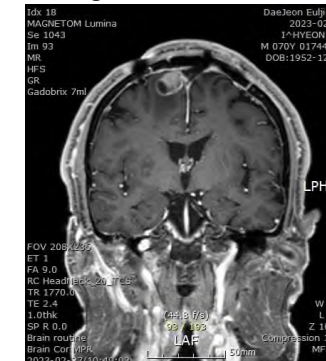


Fig. 9. 2023.02

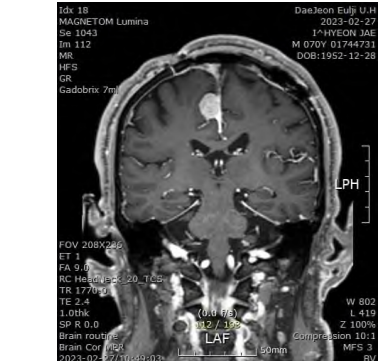


Fig. 10. 2023.02



Fig. 11. 2023.04



Fig. 12. 2023.04

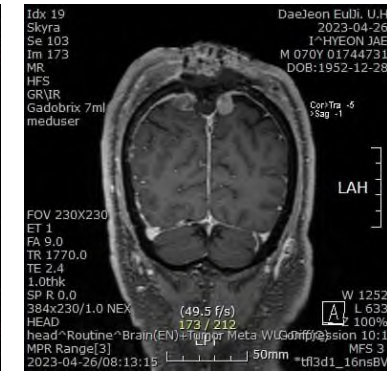


Fig. 13. 2023.04

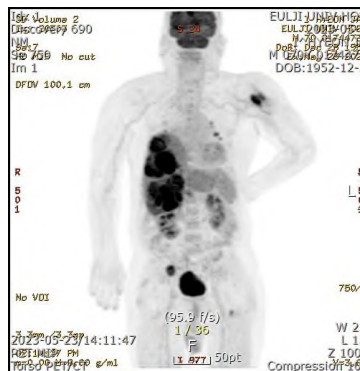


Fig. 14. 2023.05

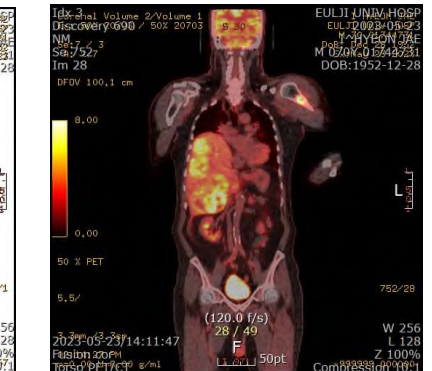


Fig. 15. 2023.05



Discussion

- In the case of SFT/HPCs grade 1, the possibility of recurrence is not high, and complete resection often shows a good prognosis, but in cases such as grade 2 and grade 3, it is common to show a poor prognosis with the possibility of recurrence.
- SFT/HPCs has a high risk of recurrence, so adjuvant radiation therapy is recommended for patients with grade 2 or 3 SFT/HPCs
- Clinically, these SFT/HPCs are easily mistaken for meningioma. SFT/HPCs rarely exhibit calcification, as seen in 20% to 30% of meningiomas. SFT/HPCs frequently cause bony erosion, while meningiomas are more apt to produce hyperostosis.



Conclusion

- In this case, despite several recurrences, reoperation, and 7th GKRS, the patient died due to metastasis throughout the body.
- As SFT/HPCs are tumors in which recurrence and systemic metastasis are relatively common, neurosurgeons must carefully monitor them, and since the recurrence and survival rates differ significantly depending on the presence or absence of adjuvant radiation therapy, radiation therapy should also be actively considered.
- In addition, SFT/HPCs need to be differentiated from meningioma. Unlike meningioma, which shows a good prognosis, SFT/HPCs often show a poor prognosis, so active differentiation and treatment are necessary.