An Interesting Case of Gliosarcoma Presenting as Interhemispheric Bleed

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PRESENTATION OF CASE

A young male patient presented to our hospital with sudden onset severe headache and weakness in right hand. On neurological examination, patient was conscious but drowsy. He had right upper limb weakness, power 3/5 (on MRC scale), power in rest of the three limbs was intact. CT brain with contrast was suggestive of moderate size haematoma in left frontal parasagittal region (Figure 1, 2). Suspecting a vascular aetiology, patient was investigated with MR angio & DSA, which was not conclusive (Figure 3, 4). As patient's consciousness was deteriorating, he underwent emergency craniotomy, intra-operatively, there was large haematoma overlying a solid reddish black coloured tumour in left frontal parasagittal area. Tumour was excised completely with haematoma (Figure 5). Post operatively patient's condition improved well but there was minimal improvement in power in right upper limb at discharge.

Histopathological report was suggestive of Gliosarcoma. Patient was planned for chemo-radiotherapy after 15 days.

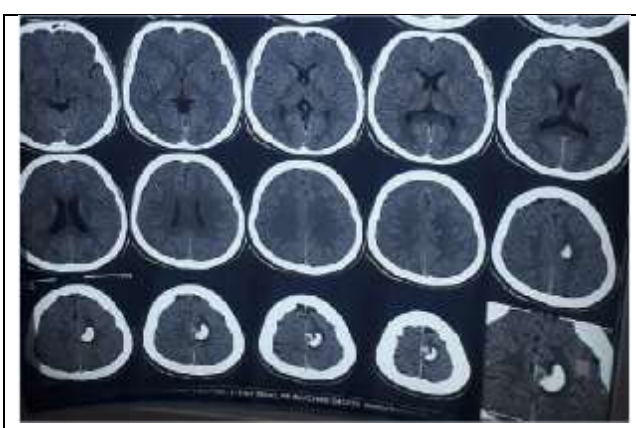

Figure 1. Preoperative CT Brain Showing Left Sided Bleed

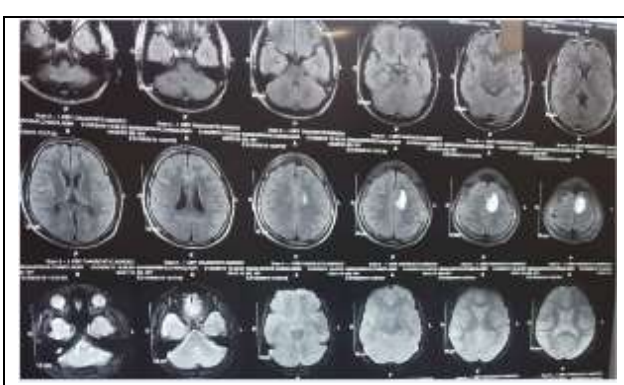

Figure 2. Preoperative MRI Brain

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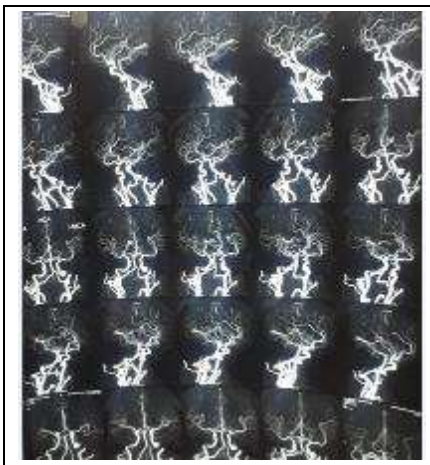

Figure 3. Preoperative MR Angio of Brain

Figure 4. Preoperative DSA of All Four Vessels

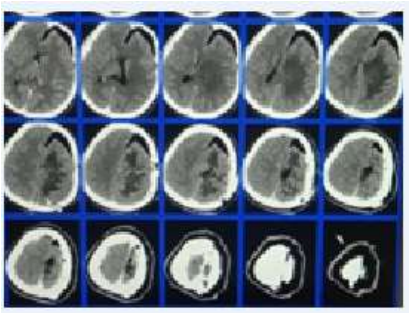

Figure 5. Postoperative CT Brain Showing Complete Excision

CLINICAL DIAGNOSIS

Intracranial haemorrhage. ? Cause.

DIFFERENTIAL DIAGNOSIS

Meningioma? Haemorrhagic metastasis?

DISCUSSION

In general, Hypertension is the most common aetiology for spontaneous intracerebral haemorrhage. Incidence of Brain tumours presenting as intracranial haemorrhage is only 1-10%. Intracranial haemorrhage is usually seen in paediatric age group. However, apoplectic onset of haemorrhage from a silent brain tumour is even more uncommon. Only 0.6% of brain tumours develop haemorrhage as presentation, without any other symptoms.[1]

Gliosarcoma is a rare type of glioblastoma characterized by mixed glial and mesenchymal components. It comprises approximately 2.2% of glioblastomas. GS are most common in males, and usually present between fifth to sixth decades of life. Gliosarcoma is found more frequently in the temporal lobes and may have an increased predilection for local invasion and extracranial metastasis. It usually presents between fourth to sixth decade of life. The clinical presentation varies according to location and tumour size. The most common symptoms are seizures, focal neurological deficits, headache, and other symptoms related to increased intracranial pressure. Here, we report a rare case of gliosarcoma presenting to us as interhemispheric haemorrhage.[2]

The incidence of tumour bleeding in malignant astrocytoma in one study was 6% while that in glioblastoma and metastatic brain tumours were 6.5-8% and 7-9%, respectively. Intratumoural haemorrhage is usually seen at atypical location as compared to hypertensive bleed, and patients usually don't have a prior history of hypertension.[1] Intratumoural haemorrhage may be indistinguishable from spontaneous ICH, even though contrast material is used, as lesion may be compressed due to clot. Thus, a CT with contrast cannot exclude underlying pathologies that may cause ICH. That is why normal imaging studies can be seen in some patients.[1] Intratumoural haemorrhage is believed to be due to abnormal vessels that traverse necrotic areas or from large vessels invaded by lesion, leading to thinning and rupture of the vessel's walls. Endothelial proliferation with obliteration of the lumen and presence of intratumoural arteriovenous fistulae are another mechanism. haemorrhage is usually seen in high grade lesions such as glioblastoma or metastatic lesions. Coagulopathy due to tumour or its systemic effects leads to continuous haemorrhage. Therefore, achieving haemostasis during surgery is difficult in these lesions.[1,3,4]

In the present case, there was no time to detect the underlying high-grade glioma at admission as patient presented with limb weakness and deteriorated rapidly so emergency craniotomy had to be performed. Some brain tumours may mimic hypertensive ICH so may be difficult to diagnosis in the acute phase. Atypical morphology and location of the haematoma, atypical patient clinical history should raise suspicion of malignant aggressive tumour as a cause of haemorrhage. Management in such cases is urgent surgical intervention and complete excision of tumour with haematoma.

FINAL DIAGNOSIS

Gliosarcoma with tumoural bleed.

REFERENCES

[1] Choi G, Park DH, Kang SH, Chung YG: Glioma mimicking a hypertensive intracerebral haemorrhage.J Korean Neurosurg Soc. 2013 Aug; 54(2): 125-7. doi: 10.3340/jkns.2013.54.2.125. Epub 2013 Aug 31.

[2] Singh G, Das KK, Sharma P, Guruprasad B, Jaiswal S, Mehrotra A, et al. Cerebral gliosarcoma: Analysis of 16 patients and review of literature. Asian J Neurosurg 2015; 10: 195-202.

[3] MilošJokovIć, Vojislav BogosavljevIć, Igor NIkolIć, Nemanja JovanovIć: Spontaneous Intracerebral haematoma in Low-Grade GliomaAfter 14 Years of Follow Up. Turk Neurosurg, 2016; 26(3): 452-5. doi: 10.5137/1019-5149.JTN.11004-14.1.

[4] Richard SA, Ye Y, Li H, Ma L, You C: Glioblastomamultiforme subterfuge as acute cerebral haemorrhage: A case report and literature review.Neurol Int. 2018 Apr 4; 10(1): 7558. doi: 10.4081/ni.2018.7558. eCollection 2018 Mar 30.