

Meningioma Masquerading as Subacute Extradural Hematoma

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Case Report

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Abstract: An unknown male person of about 70years old was found unconscious on road side. CT scan of brain showed a slightly hyperdense biconvex extra axial lesion in left fronto-parietal region, suggestive of Subacute Extradural haematoma. Intraoperatively it was found to be a mass lesion for which excision was done. Histopathology report was Transitional Meningioma (WHO Grade-I). This case illustrates a rare presentation of Meningioma radiologically mimicking as subacute extradural haematoma leading to erroneous diagnosis.

Keywords: Meningioma, Subacute, Extradural, hemorrhage, haematoma.

INTRODUCTION

Meningioma's are the most common benign intracranial tumors and make up 13-25% of all primary intracranial tumors. Most of the individuals with meningioma are present with symptoms such as headache, dizziness, seizures or gradual progression of neurological deficits [1]. Two-3% have asymptomatic Meningioma's. Presentation of intracranial hemorrhage is rare in meningiomas, approximately 1.3-2.4%. [2]. on plain CT scan of brain, meningioma's are is dense to slightly hyper dense compared with adjacent brain parenchyma. We present a rare case of meningioma radiologically mimicking as subacute extradural hematoma, leading to a diagnostic dilemma.

CASE REPORT

An unknown male person aged about 70 years was found unconscious on road side, and he was brought by police to Emergency department with the suspicion of road traffic accident.

At admission his Glasgow coma scale (GCS) was E1V1M5. Computed tomography (CT) scan of brain was done, which revealed slightly hyperdense, biconvex shaped extra-axial lesion, of 35ml volume, in left fronto-parietal region (figure 1). Based on history and CT scan features, a diagnosis of Sub-acute extradural hematoma was considered.

A craniotomy was performed to evacuate the hematoma. On removing the bone flap, extradural hematoma was not found. There was a suspicion of subdural lesion or haematoma hence dura was opened. After opening the dura, a greyish brown soft to firm

mass with dural attachment and compressing the brain parenchyma was seen (figure-2). Simpson grade-IV excision of mass was done and sent for histopathological examination. Post-operative CT scans (figure-5) and MRI of Brain was done. Post-operative MRI showed a residual tumour of 0.5-1cm size close to frontal bone which is isointense on T1(figure-6) and hypointense on T2 weighted images (figure 8) and "dural tail" sign was noted. Histopathological examination of tumour confirmed the mass as Transitional Meningioma (WHO Grade-I)(figure-4). The patient was discharged 10 days later and he had lost for follow-up.

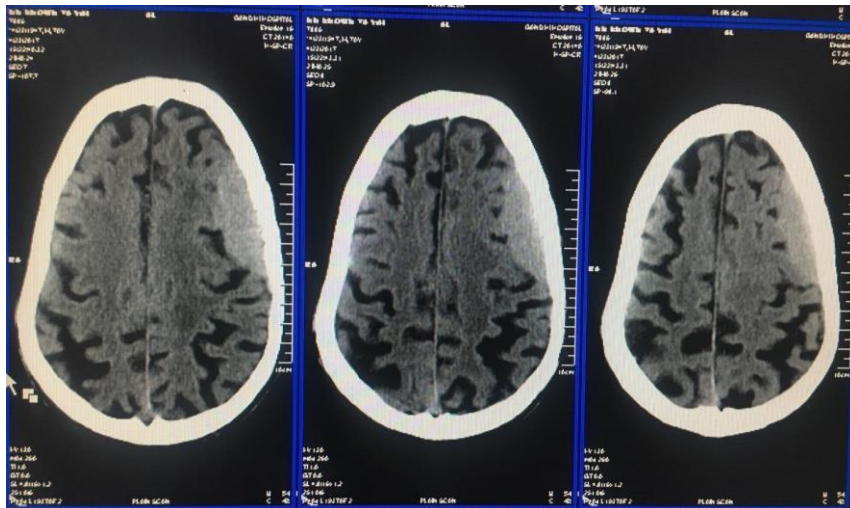


Fig-1: Pre-operative CT Scan of brain

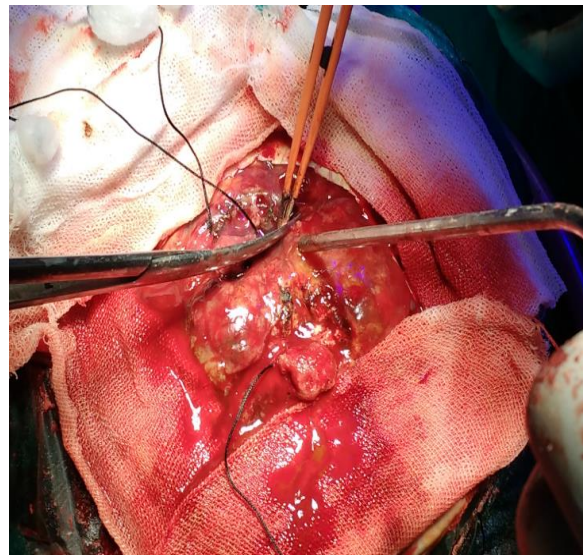


Fig-2: Intra-operative picture



Fig-3: Gross specimen, Cut section, 5x5cm

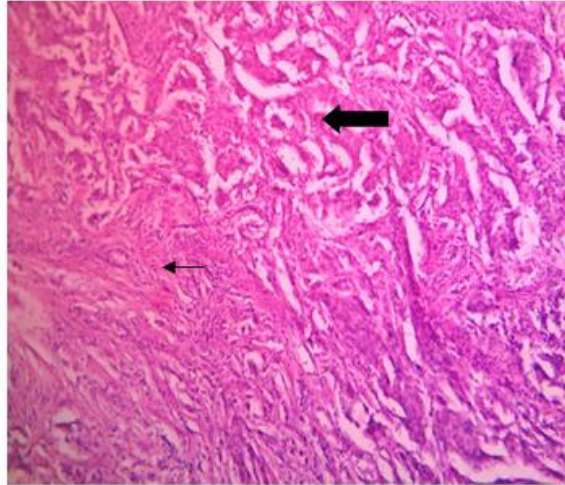


Fig-4: Histopathological picture, showing features of meningotheelial (shown as bold arrow \leftarrow) and fibroblastic features (pointed as \leftarrow)

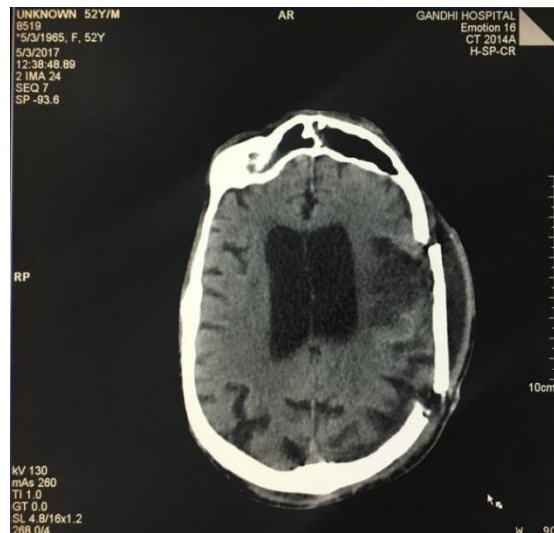


Fig-5: Post-operative CT Scan of brain

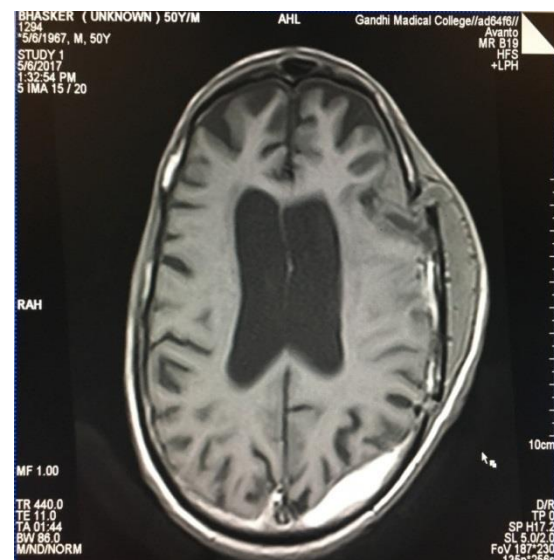


Fig-6: Post-operative T1 weighted image, showing isointense residual tumour

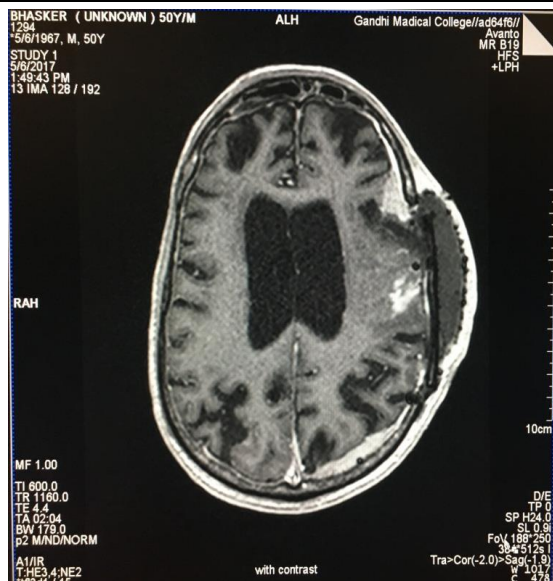


Fig-7: Post-operative T1 weighted image with contrast, showing residual tumour and “dural tail” sign

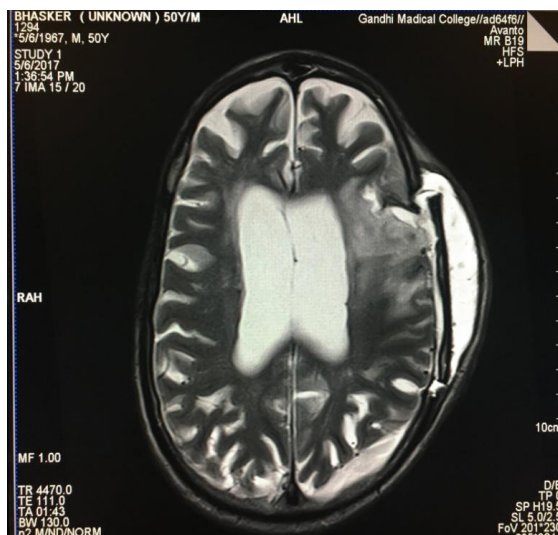


Fig-8: Post-operative T2 weighted image

DISCUSSION

Meningiomas are the most common benign intracranial tumours and make up 13-26% of all primary intracranial neoplasms [3]. The incidence is six per 100000 (highest after 50years of age) and female to male ratio is 2:1. Two-3% of populations have asymptomatic meningiomas and 8% have multiple meningioma's [4].

Meningiomas usually present with symptoms such as headache, dizziness, seizures or gradual progression of neurological deficits [1]. Depending on the tumor location, focal neurological deficits, may accompany these symptoms with tumor growth. Meningioma's can rarely present as Foster Kennedy syndrome [5].

Meningiomas are usually globular, encapsulated tumours. They are usually attached to the

dura and compress the underlying brain without invading it [6].

Transitional meningioma's are also called as mixed meningiomas. WHO (Grade-I)[15]. Microscopically they represent a combination of the meningothelial and fibroblastic types. Characteristically cellular whorls are seen, separated by elongated spindle cells (figure-4).

Extradural hematoma is usually a consequence of head injury and account for 5-15% of fatal head injuries. EDH can be classified by their radiological progression into 3 appearances:

Type I (acute or hyperacute—day 1, associated with “swirl” of unclotted blood), CT density relative to brain—hyperdense [7, 8].

Type II (subacute—days 2-4, solid), CT density relative to brain—slightly hyper dense to is dense [7, 8].

Type III (chronic—days 7-20, mixed or lucent with contrast enhancement)[8], CT density relative to brain—hypodense [7]. They occur in 58%, 31%, and 11% of cases, respectively.

Intracranial hemorrhage associated with brain tumors occurs in 1.7-9.6% of all cases and makes 0.9-10.2% of all intracranial hemorrhages [2]. Meningioma's can sometimes present with intracranial hemorrhage and as intratumoural hemorrhage [9]. Sometimes tumors of skull can masquerade as EDH [14]. Chronic epidural hematoma can mimic as meningioma [16]. Primary Dural lymphoma can mimic as chronic epidural hematoma [17].

The location and growth pattern of Meningioma's can vary substantially and potentially be misdiagnosed [10]. Meningioma's can also be confused with dural metastasis and chronic SDH [11]. In some rare cases, these tumors could also cause intracerebral hemorrhage and chronic SDH and conceal themselves around or inside the hematoma [12].

In our case, the unknown history and the acute presentation of patient suggested an intracranial injury secondary to trauma. When the plain CT scan was done, the radiological findings of extradural haematoma was observed, a diagnosis of subacute extradural haematoma was considered. In view of poor GCS and need for emergency surgery, a contrast CT scan or MRI could not be done. This case report suggests that one should keep in mind the possibility of an alternative lesion, as a differential diagnosis, when the radiological appearances are deceptive.

CONCLUSION

The interesting points in this case which mislead to make a diagnosis of Subacute extradural hematoma are clinical grounds, acute presentation, the suspicion of head injury and most significantly the radiological appearance. Had there been a proper history and adequate time for appropriate radiological workup, the diagnosis of tumour could have been made pre-operatively.

REFERENCES

1. Whittle IR, Smith C, Navoo P, Collie D. Meningiomas. *Lancet* 2004;363:1535-43
2. Wakai S, Yamakawa K, Manaka S, Takakura K. Spontaneous intracranial hemorrhage caused by brain tumor: its incidence and clinical significance. *Neurosurgery* 1982;10:437-44
3. Claus EB, Bondy ML, Schildkraut JM, Wiemels JL, Wrensch M, Black PM. Epidemiology of intracranial meningioma. *Neurosurgery*. 2005 Dec 1;57(6):1088-95.

4. Riemenschneider MJ, Perry A, Reifenberger G. Histological classification and molecular genetics of Meningiomas. *Lancet Neurol* 2006;5: 1045-54.
5. Lotfipour S, Chiles K, Kahn JA, Bey T, Rudkin S. An unusual presentation of subfrontal meningioma: a case report and literature review for Foster Kennedy syndrome. *Internal and emergency medicine*. 2011 Jun 1;6(3):267-9.
6. Wang DJ, Xie Q, Gong Y, Mao Y, Wang Y, Cheng HX, Zhong P, Che XM, Jiang CC, Huang FP, Zheng K. Histopathological classification and location of consecutively operated meningiomas at a single institution in China from 2001 to 2010. *Chinese medical journal*. 2013 Feb;126(3):488-93.
7. Atlas SW, Thulborn KR. Intracranial hemorrhage. In: Atlas SW, ed. *Magnetic Resonance Imaging of the Brain and Spine*. Vol. 1. 4th ed. Lippincott Williams and Wilkins; 2008
8. Zimmerman RA, Bilaniuk LT. Computed tomographic staging of traumatic epidural bleeding. *Radiology*. 1982 Sep;144(4):809-12.
9. Bruno MC, Santangelo M, Panagiotopoulos K, Piscopo GA. Bilateral chronic subdural hematoma associated with meningioma: Case report and review of the literature/Comment. *Journal of neurosurgical sciences*. 2003 Dec 1;47(4):215.
10. Wu C, Liu J, Yang C. Meningioma mimics chronic subdural hematoma: A case report and discussion of differential diagnosis. *Neurology India*. 2012 Sep 1;60(5):549.
11. Cheng YK, Wang TC, Yang JT, Lee MH, Su CH. Dural metastasis from prostatic adenocarcinoma mimicking chronic subdural hematoma. *J Clin Neurosci* 2009;16: 1084-6.
12. Scarrow AM, Segal R. Meningioma associated with chronic subdural hematoma. *Acta neurochirurgica*. 1998 Dec 19;140(12):1317-8.
13. Singleton SD, Koerner CE. Lenticular lesions: not always an epidural hematoma. *Pediatric emergency care*. 2001 Aug 1;17(4):252-4.
14. Rutherford SA, Leach PA, Richardson PL. Solitary skull vault plasmacytoma masquerading as an extradural haematoma. *Acta neurochirurgica*. 2004 Jul 1;146(8):863-4.
15. Wang DJ, Xie Q, Gong Y, Mao Y, Wang Y, Cheng HX, Zhong P, Che XM, Jiang CC, Huang FP, Zheng K. Histopathological classification and location of consecutively operated meningiomas at a single institution in China from 2001 to 2010. *Chinese medical journal*. 2013 Feb;126(3):488-93.
16. Beculić H, Skomorac R, Jusić A, Mekić-Abazović A, Bajtarević A. Chronic epidural haematoma mimicking meningioma. *Medicinski glasnik: official publication of the Medical Association of Zenica-Doboj Canton, Bosnia and Herzegovina*. 2011 Feb;8(1):63-5.
17. Iaccarino C, Schiavi P, Crafa P, Bronzoni C, Mantenuto G, Servadei F. Primary dural lymphoma mimicking a chronic epidural

hematoma. Differential diagnosis of two rare conditions. Clinical neurology and neurosurgery. 2013 Aug 1;115(8):1510.