

Hemorrhagic low-grade glioma

Intracerebral hematoma is an unusual clinical presentation for [low-grade gliomas](#) and it has been described in a small number of cases in adults ^{1) 2) 3)}.

Hemorrhagic [low-grade glioma](#) (LGG) without malignant transformation is rare, accounting for less than 1% of cases.

It is now generally accepted that the main cause of mortality in these tumors is their dedifferentiation to a higher degree of malignancy ^{4) 5) 6)}.

Case reports

Hemorrhagic LGG with an arteriovenous(AV)shunt has not been reported.

Matsuura et al., from the [Toho University Medical Center Omori Hospital](#), report the case of a 17-year-old man with [low-grade glioma](#) (LGG) with an [arteriovenous fistula](#). He presented to the hospital with [seizure](#). [Computed tomography](#)(CT) demonstrated a [hypodense](#) lesion with mass effect in the right [frontal lobe](#). T1-weighted images(WI)and T2WI on [magnetic resonance imaging](#)(MRI) revealed acute-onset hemorrhage in the right [frontal lobe](#). Furthermore, a [ring enhancing lesion](#) was noted on [gadolinium \(Gd\)-DTPA T1WI](#), and an AV shunt was found in the same region on [angiography](#). [Gross total](#) tumor resection was performed. The pathological diagnosis was [diffuse astrocytoma](#) with [pilomyxoid](#) features (WHO grade II). Without [adjuvant therapy](#), no residual tumor was found on MRI at the 6-year follow-up examination. They treated a case of hemorrhagic LGG with an AV shunt. Intratumoral hemorrhage in LGG may occur and should be considered for the [differential diagnosis](#) ⁷⁾.

A 53-year old woman presenting to the hospital with a hemorrhagic low-grade glioma (LGG). She was admitted to a nearby general hospital where she had presented with aphasia, right hemiplegia and change of mental status. Computer tomography (CT) images showed a left temporo-parietal hemorrhage with mass effect. She was transferred to the neuro-intensive care unit where emergency craniotomy was performed. A tumor with hematoma was removed and further histopathology analysis revealed tumor progression. They reviewed the literature reporting cases of central nervous system tumors hemorrhage and found that these types of events are exquisitely rare in adults with LGG. However these events are possible, suggesting that it should be included in the differential diagnosis of any patient presenting with intracranial hemorrhage. This case raises questions regarding the benefit of early versus late intervention for patients known to have LGG ⁸⁾.

Della Puppa et al., reviewed the literature of such cases and reported another case of a haemorrhagic low-grade glioma in a 54-year-old woman presenting with a left hemiparesis. Computer tomography (CT) images showed a right basal ganglia haemorrhage with no mass effect. Vascular malformations were ruled out by angiography. Eighteen fluoro-fluoro deossiglucosio (18F-FDG) positron emission tomography (PET/CT) showed a large hypometabolic area corresponding to the lesion. We waited for patient's improvement. Late magnetic resonance images revealed a low-grade glioma at the bleeding site. Tumour was removed and histopathologic examination revealed a WHO grade II mixed glioma.

The authors emphasize that this evidence has to be kept in mind since it has important therapeutic implications⁹⁾.

Memon et al., treated three cases of brain tumor that presented with intracranial hemorrhage. Two of the three tumors were metastatic. They presented with hemorrhage into the tumor, but no blood in the cerebrospinal fluid. One tumor was a low grade astrocytoma that presented as subarachnoid and intraventricular hemorrhage in a 15-year-old child. It was removed with no neurological sequelae¹⁰⁾.

References

1)

Gottfried ON, Fults DW, Townsend JJ, Couldwell WT: Spontaneous hemorrhage associated with a pilomyxoid astrocytoma: Case report. J Neurosurg 99: 416-420, 2003

2)

Kondziolka D, Bernstein M, Resch L, Tator CH, Fleming JF, Vanderlinden RG, Schutz H: Significance of hemorrhage into brain tumor: clinicopathological study. J Neurosurg 67:852-857, 1987

3)

Licata B, Turazzi S: Bleeding cerebral neoplasm's with symptomatic hematoma. J Neurosurg Sci 47:201-210, 2003

4)

Mineo JF, Bordron A, Baroncini M, Maurage CA, Ramirez C, Siminski RM, Berthou C, Dam Hieu P: Low HER2-expressing glioblastomas are more often secondary to anaplastic transformation of low-grade glioma. J Neurooncol 85:281-287, 2007

5)

Radulović D: Natural history of supratentorial low-grade astrocytoma: Case report. Srp Arh Celok Lek 134:537-540, 2006

6)

Tungaria A, Sahu RN, Kumar R, Srivastava A: Intratumoral hemorrhage in brainstem low-grade glioma. Neurol India 60: 243-245, 2012

7)

Matsuura C, Sakaeyama Y, Node Y, Ueda K, Ando S, Masuda H, Kondo K, Harada N, Nemoto M, Sugo N. [Diffuse Astrocytoma with Pilomyxoid Features Presenting as Intratumoral Hemorrhage: A Case Report]. No Shinkei Geka. 2018 Dec;46(12):1073-1079. doi: 10.11477/mf.1436203870. Japanese. PubMed PMID: 30572304.

8)

Joković M, Bogosavljević V, Nikolić I, Jovanović N. Spontaneous Intracerebral Hematoma in Low-Grade Glioma After 14 Years of Follow-Up. Turk Neurosurg. 2016;26(3):452-5. doi: 10.5137/1019-5149.JTN.11004-14.1. PubMed PMID: 27161476.

9)

Della Puppa A, Zustovich F, Gardiman M, Manara R, Cecchin D, Scienza R. Haemorrhagic presentation of low-grade glioma in adults. Acta Neurochir (Wien). 2007 Nov;149(11):1151-5; discussion 1155. Epub 2007 Aug 6. Review. PubMed PMID: 17676407.

10)

Memon MY, Neal A, Imami R, Villareal N. low-grade glioma presenting as subarachnoid hemorrhage. Neurosurgery. 1984 May;14(5):574-7. PubMed PMID: 6728165.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=hemorrhagic_low_grade_glioma

Last update: **2024/06/07 02:50**

