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Letter to Editor

Post-traumatic glioma: Report of one case

To the Editor,

Several well-recognized risk factors for neoplastic transformation have been reported in the previous literature., including prolonged ionizing radiation, viral infections, and genetic factors. However, recent studies suggest that trauma may also be a risk factor for tumorigenesis, though further evidence is needed to establish this link.[1,2,3,4,5] Clinical cases of post-traumatic tumorigenesis with a complete chain of evidence are very rare, and this paper reports a case of post-traumatic glioma genesis with a complete chain of evidence.

The patient is a 62-year-old woman who was hospitalized on November 2, 2023, with a drooping mouth, slurred speech, right limb weakness, and unsteadiness while holding objects. MRI revealed a large, irregular high-signal lesion in the left temporal lobe, characterized by liquefactive necrosis and unclear borders,

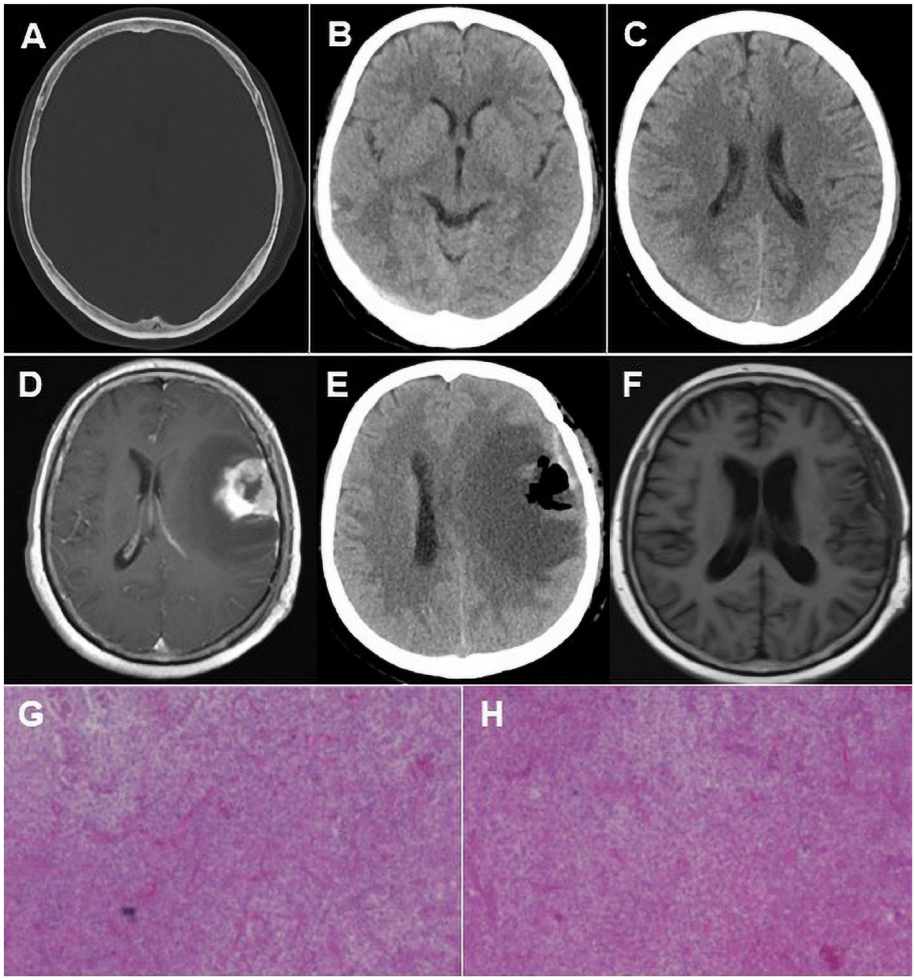

Fig. 1. (A.B) CT image showed left temporal bone fracture; left temporal lobe subcutaneous hematoma with sphenoid sinus accumulation of blood; (C) 7.20 trauma discharge review CT: no abnormality was seen; (D) 11.02 after enhanced scanning: left frontotemporal lobe occupying foci, considering the possibility of high-grade glioma; (E) 6 h after the operation, CT showed no hemorrhage; (F) 7 months after the operation, MRI review: Left frontal, temporal, and parietal lobe edema with no signs of tumor recurrence; (G.H) Pathological findings showed a high-grade glioma, which was considered a glioblastoma (CNS WHO grade 4).

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measuring approximately 32 mm × 36 mm × 37 mm. The lesion was surrounded by substantial patchy edema, with thickening and enhancement of the adjacent meninges; the brain parenchyma around the lesion was compressed, and the left lateral ventricle was markedly compressed and deformed, with midline deviation to the right. The brain parenchyma around the lesion was compressed, and the left lateral ventricle was obviously compressed and deformed, with the midline deviated to the right. No obvious abnormal enhancement foci were seen in the rest of the brain parenchyma. The occupying lesions in the left frontotemporal lobe were considered likely high-grade glioma (Fig. 1).Neurological examination revealed significant muscle weakness in the right limb. Histopathological examination confirmed a diagnosis of high-grade glioma, classified as glioblastoma (CNS WHO grade 4), with observed tumor necrosis. Immunohistochemical analysis yielded the following results: AE1/AE3 (−), EMA (−), S-100 (partially +), GFAP (+), Oligo-2 (+), IDH-1 (−), ATRX (+), p53 (5 %, strongly +), PR (−), CD34 (−), Ki-67 (hotspot area approximately 40 %) (Fig. 1). The patient had been hospitalized four months earlier for a head injury caused by a car accident. A CT scan conducted on July 6, 2023, revealed a left temporal bone fracture with sphenoid sinus hemorrhage and subcutaneous soft tissue swelling with hematoma formation (Fig. 1). Upon discharge on July 20, 2023, a follow-up CT scan of the traumatic brain injury indicated that the hematoma had been absorbed more than before and showed no signs of tumorigenesis (Fig. 1). After completing preoperative investigations, the patient underwent surgery on November 5, 2023, and recovered well. An MRI performed seven months post-surgery showed no signs of tumor recurrence (Fig. 1).and the MRI was reviewed seven months after surgery and showed no signs of tumor recurrence (Fig. 1).In previous cases of post-traumatic tumorigenesis, the interval between trauma and tumor development often exceeded Several years; however, in this case, the entire process occurred in less than four months. In conclusion, this paper contributes to demonstrating the link between trauma and tumorigenesis. Enriched the evidence of the connection.

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Declaration of competing interest

The authors declare that they have no conflicts of interests.

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Yang Wang, Lean Sun, Guangfu Di, Xiaochun Jiang*
Department of Neurosurgery, Anhui Digital Brain Engineering Research Center, The First Affiliated Hospital of Wannan Medical College, Yijishan Hospital of Wannan, Medical College, Wuhu, 241001, PR China

* Corresponding author.
E-mail address: Jiangxiaochun2019@hotmial.com (X. Jiang).

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