Glioblastoma Multiforme: Case of Subtle Presentation

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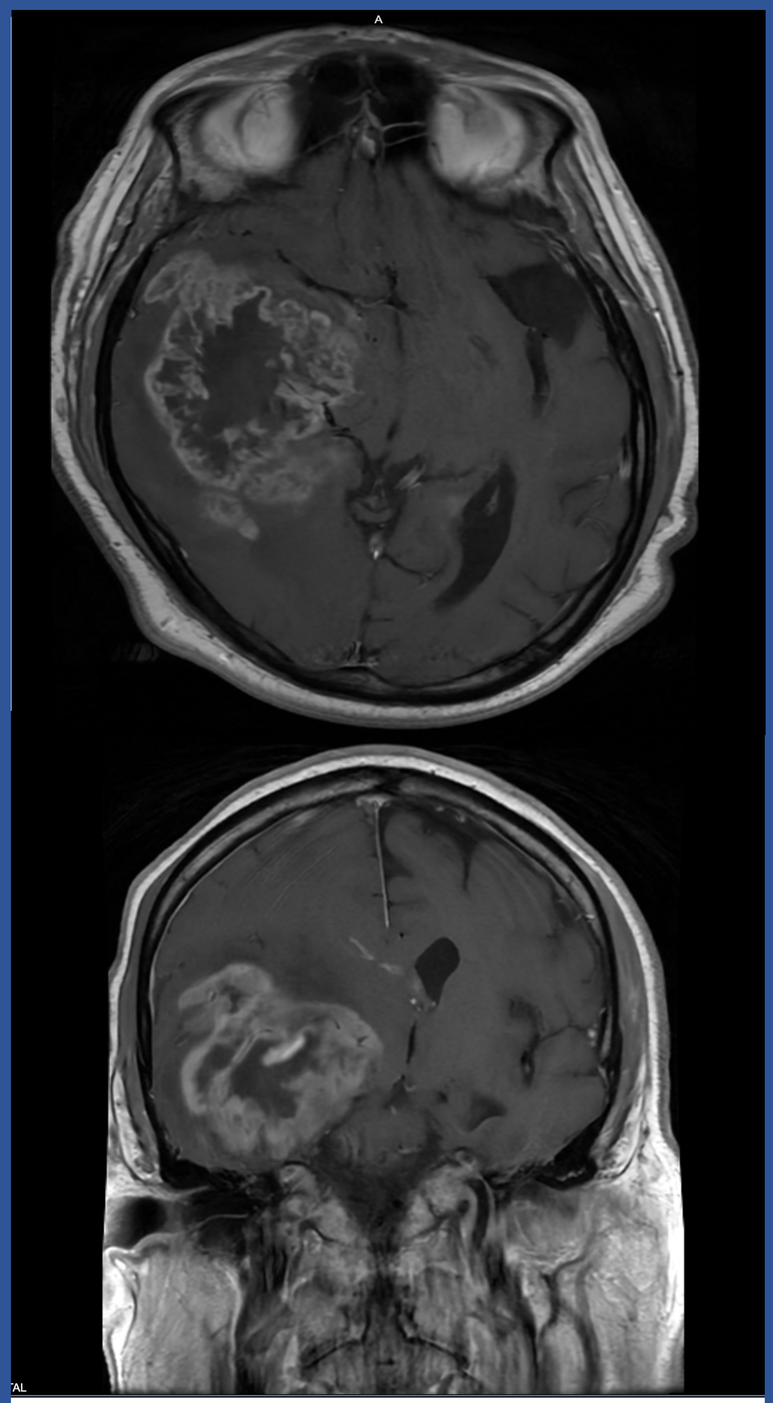
Introduction/Background

Glioblastoma multiforme (GBM) is a highly aggressive brain cancer originating from astrocytes, predominantly affecting adults. Primary GBM typically occur at approximately age 62, while secondary GBM is observed around age 45. Some symptoms include headaches, seizures, weakness, and altered consciousness, which can resemble other neurological conditions. Treatment typically entails maximal surgical resection followed by chemoradiotherapy.

Case Presentation/Methods

68 y/o male with a past medical history of sciatica and hypertension presented to the ED for generalized weakness and recent fall. He associated his fall with loss of balance rather than lightheadedness while walking with his cane and it did not result in head trauma or loss of consciousness. He noted increased mechanical falls associated with loss of balance for the past few months. ROS did not reveal headache, blurry vision, fevers/chills, nausea or vomiting, saddle anesthesia, or new numbness and tingling. At presentation, patient was normotensive (128/63), afebrile (97.5^{o}F) with normal heart rate (76), normal respiratory rate (18), and 96% O2 saturation. Neurological exam only revealed left upper extremity pronator drift, but overall neurological exam revealed the patient was alert and oriented to person, place, and time, has intact EOMs, appropriately conversing, 5/5 bilateral UE and LE strength and no sensory defects. Physical revealed no other abnormalities. CBC was within normal limits. CMP merely showed hypokalemia and hypomagnesemia. Urinalysis did not indicate UTI. Given the clinical findings, physical exam and labs, imaging studies were ordered. Non-contrast CT of head/brain revealed a large right temporal mass with vasogenic edema with right-to-left midline shift and right uncal and transtentorial herniation. MRI confirmed 9.1x 6.2 x 5.9 cm necrotic ring-enhancing mass with an 8 mm midline shift. Neurosurgery consultation led to right craniotomy with resection of the mass.

Figures



MRI Brain in axial view (top image) and coronal view (bottom image) showing a centrally necrotic appearing mass with a thick peripheral irregular ring-enhancement seen throughout the right temporal lobe.

Results

Pathology report revealed Glioblastoma, IDH-wildtype, WHO grade 4. Status post-craniotomy, patient's decline in neurological status resulted in transfer to the ICU but was later deemed to be stable. After a lengthy stay at medical-surgical floor, the patient unfortunately expired.

Conclusions/Discussions

The case underscores the critical importance of early detection in improving outcomes for patients with glioblastoma multiforme (GBM), a highly aggressive primary brain cancer. Despite the absence of classic neurological symptoms such as headaches or seizures, the patient's presentation with generalized weakness and recurrent falls highlights the need for heightened clinical suspicion for GBM, even in the absence of overt neurological signs. While studies commonly cite symptoms such as headaches and seizures in 20-50% of GBM patients, alongside focal neurological deficits and signs of increased intracranial pressure (nausea, vomiting, blurry vision or altered mental status), it's crucial for physicians to maintain a broad diagnostic lens. Even patients lacking these classic symptoms warrant consideration for GBM. In cases where symptoms are nonspecific or attributed to other conditions, prompt neuroimaging studies, such as MRI, can play a pivotal role in identifying characteristic features of GBM, enabling early intervention and treatment. The case emphasizes the formidable diagnostic hurdles posed by GBM and emphasizes its aggressive nature, prompting a call for heightened vigilance in clinical practice.

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