Endoscopic Intraventricular Approach in Glioblastoma: A Case Report of an Adult Filipino with Periventricular Mass

Jonna Mae DS. Maala, MD; Rhoderick M. Casis, MD; Erickson F. Torio, MD; Maurice V. Bayhon, MD

St Luke’s Medical Center, Philippines
Institute for Neurosciences- Section of Neurosurgery
Introduction

- Glioblastomas in adults most commonly arise from the cerebral hemispheres and rarely from deep-seated structures such as the thalamus.
- Thalamic gliomas represent 1-5% of brain tumors. Because of the location, these lesions are largely unresectable.
Introduction

- Gangemi et al proposed that neuroendoscopy is an accepted and widely used technique for obtaining biopsy material from tumors located within the ventricular system. In this study, endoscopic guided insertion of ventricular catheter was done to address the hydrocephalus.

- AIM OF THE STUDY: To present endoscopic biopsy as a technique in obtaining histopathologic diagnosis from a deeply located, periventricular mass. It is also considered as a unique approach in terms of using endoscope as a guide in inserting a shunt catheter to the 3rd ventricle to address the hydrocephalus.
Disclosure

- Nothing to disclose
A 58/F suffered from 1 year history of generalized headache with no other associated symptoms, hence no consult done. In the interim, she suddenly developed left-sided weakness accompanied by drowsiness disorientation, and changes in mood and behavior.

Cranial MRI revealed an irregularly-shaped, heterogeneously contrast enhancing mass measuring (3.5 x 2.2 x 2.1)cm that encompasses the right thalamic area abutting the ipsilateral ventricle with extension to ipsilateral mesencephalic area. There was note of hydrocephalus.
Patient underwent Endoscopic Transventricular Septostomy, Biopsy of Thalamic Mass with VPS insertion under Endoscopic Guidance.

Intraoperatively, a rigid neuroendoscope was inserted thru the corticectomy done on the patient’s Kocher’s point. The thamic areas was noted to be bulging and grayish. A biopsy forcep was used to grasp the tumor and specimen was secured. A septostomy was done to expose the left lateral ventricle with noted good efflux of cerebrospinal fluid.

Histopathology revealed WHO Grade IV Glioblastoma Multiforme
Discussion

- Stensoen et al were able to quantify the rapid growth rate of GBM in vivo with a daily growth rate of 1.4% and equivalent doubling time of 49.6 days.

- In comparison with open surgery, the neuroendoscopic biopsy is limited by the small size of the specimens harvested, causing diagnostic failure in 10% of a retrospective series study.

- Analysis of the published reports revealed collective successful diagnostic yield in 1735 out of 1927 cases. Constantini et al reported diagnostic yield of 90.4%
Conclusion

- Endoscopic tumor biopsy may be used in deep-seated tumors. It has a diagnostic yield and can also aid in further management of associated hydrocephalus thru the insertion of a shunt.
References