



Know the less known: Diffuse leptomeningeal glioneuronal tumour

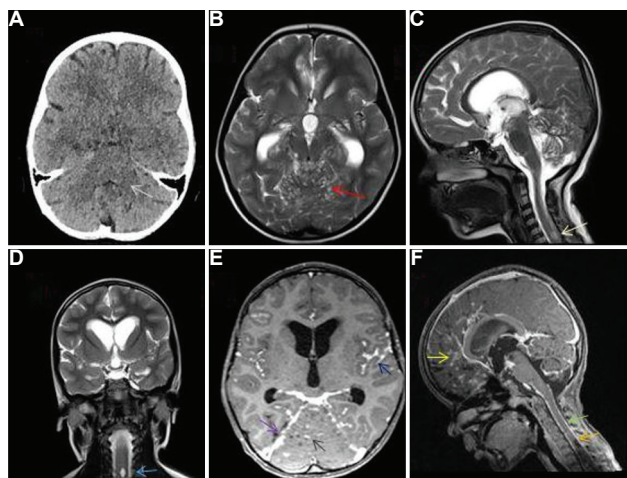


Fig. 1. (A) Non-contrast enhanced computed tomography (NECT) brain-irregular hypodensity in cerebellum (white). (B) Magnetic resonance imaging showing axial T2-weighted-multiple tiny T2-hyperintense lesions in the cerebellar hemisphere (red). (C and D) Sagittal and coronal T2-weighted-small T2 hyperintense intramedullary lesion within cervical cord in yellow and blue. (E) Axial T1C - tiny nodular enhancing lesions along cerebellar folia and diffuse leptomeningeal enhancement along tentorium cerebelli (purple) and along Sylvian fissure (black). (F) Sagittal T1C - leptomeningeal in the frontal lobe (yellow) and diffuse pial enhancement in the cervical cord (green), non-enhancing cervical cord lesion (orange).

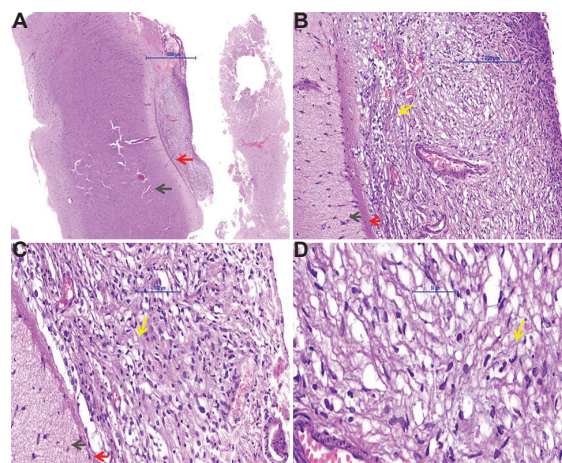


Fig. 2. Pia mater with cortex biopsy specimen slide (A, H and E, $\times 2$; B, H and E, $\times 10$ and C, H and E, $\times 20$) showing cortical normal brain parenchyma shown with black arrow, pial gliosis shown with red arrow, blood vessels shown with grey arrow and elongated tumour cells shown with yellow arrow. (D) Tumour area with low-to-moderate cellularity composed of elongated cells shown with yellow arrow and a few clear cells. Mitosis was not seen (H and E, $\times 40$).

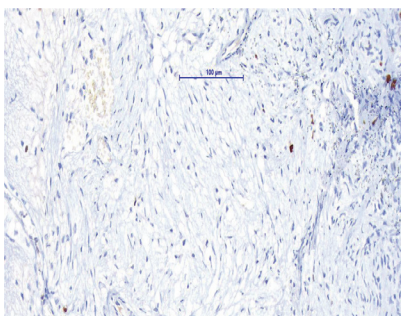


Fig. 3. MIB 1 immunohistochemistry staining showing MIB-1 labelling index approximately 2-3 per cent.

A three year old girl[†], presented to the department of Neuro-Oncology, Tata Memorial Hospital, Mumbai,

India, in September 2019, with drowsiness, drooling of saliva and lower limb weakness, underwent

[†]Consent to publish clinical information and images obtained from patient's parent.

non-contrast enhanced computed tomography (NECT) of brain showing diffuse hypodensity of the white matter involving cerebellum, bilateral basal ganglia and white matter (Fig. 1A). Magnetic resonance imaging (MRI) brain showed multiple tiny T2-hyperintense lesions in the vermis, both cerebellar hemispheres (Fig. 1B), deep grey nuclei with mild hydrocephalus, and a small T2-hyperintense lesion (Fig. 1C and D) in the cervical spine. Diffuse leptomeningeal enhancement along tentorium and Sylvain fissure (Fig. 1E) was observed, in the frontal lobe (Fig. 1F) with tiny nodular enhancing lesions along the cerebellar folia (Fig. 1E). Pial enhancement was seen along the upper cervical spine (Fig. 1F). The patient underwent craniotomy and biopsy. Haematoxylin and eosin-stained slides showed normal cortical brain parenchyma with tumour in the leptomeningeal location adherent to pial surface (Fig. 2A-C). Tumour showed moderate cellularity composed of elongated cells (Fig. 2D). On immunohistochemistry, MIB-1 labelling index was approximately 2-3 per cent (Fig. 3). Diagnosis was diffuse leptomeningeal glioneuronal tumour (DLGNT), not otherwise specified.

The patient underwent ventriculoperitoneal shunt relieving intracranial hypertension and palliative

chemotherapy with carboplatin and vincristine. After completion of 12 wk of chemotherapy, in December 2019, follow up MRI revealed stable disease. The patient developed spasticity of the left lower limb, and was continued with six more months of chemotherapy on low-grade glioma protocol with physiotherapy. This diffuse leptomeningeal type of presentation of brain tumour is uncommon and can mimic infective meningitis.

Acknowledgment: Authors acknowledge Dr Epari Sridhar, Professor, Department of Pathology, Tata Memorial Hospital, Mumbai, for providing the histopathology slides.

Conflicts of Interest: None.

Debanjan Nandi & Arpita Sahu*

Departments of Radio Diagnosis, Tata Memorial Hospital & Homi Bhabha National Institute, Parel, Mumbai 400 014, Maharashtra, India

**For correspondence:*
drarpitasahu@gmail.com

Received November 19, 2019