Supplementary Table S1. Overview of clinical presentation and interventions of 3 cases with diffuse leptomeningeal glioneuronal tumors.

Case	Gender	Age (years)	Presentation	Neuroimaging	Treatment	Response	Survival
1	F	3	Imbalance, gait disturbance, lethargy, bilateral nystagmus, ataxia, exaggerated deep tendon reflexes	Diffuse leptomeningeal enhancement, T2 hyperintense cystic lesions in the brain and spine, cervical intramedullary nodule at C3 level in sagittal T2-weighted and T1-weighted postcontrast images	RT (36 Gy CSI and 54 Gy to the tumor bed) and carboplatin + vincristine for 6 years and 3 months post-RT	Significant regression of both cranial and spinal lesions after 36 Gy of CSI, further regression at 1.5 months post-RT	Alive with stable disease at 88 months after diagnosis
2	M	4	Seizure, lethargy, nausea, vomiting	Diffuse leptomeningeal enhancement, T2 hyperintense cystic lesions in the brain and spine, the largest lesion as 1 cm in the long axis at the T5 vertebral body level in both sagittal T2-weighted and T1-weighted postcontrast images	RT (36 Gy CSI and 54 Gy to the tumor bed) and carboplatin + vincristine for 1 year post-RT	Significant regression of both cranial and spinal lesions after 36 Gy of CSI, further regression at 1.5 months post-RT	Alive with stable disease at 27 months after diagnosis
3	M	4	Seizure, headache	Diffuse leptomeningeal enhancement, occasional cystic lesions and nodular tumor implants in the brain, lumbar intramedullary nodule at L4-5 level in sagittal T2-weighted and T1- weighted post- contrast images	RT (36 Gy CSI and 54 Gy to the tumor bed) with concurrent temozolomide. Continuation of temozolomide after RT and transition to the ICE protocol upon progression	Progression of both cranial and spinal lesions after 36 Gy of CSI, slight regression at 1.5 months post-RT	Died due to progression at 10 months after diagnosis

CSI: craniospinal irradiation; ICE: ifosfamide, carboplatin, and etoposide; RT: radiotherapy.

Supplementary Table S2. Overview of tumor immunohistochemistry findings in 3 cases with diffuse leptomeningeal glioneuronal tumors.

Case	GFAP	Olig-2	MAP-2	Synaptophysin	Ki67/MIB-1 index (%)	PPH3	BRAF status	IDH mutation	P53 mutation
1	-	+	+	+	10	+ [3/10] (patchy)	-	-	-
2	-	+	+	+	1	-	NA	NA	-
3	+	+	NA	+	70 (focal)	-	-	-	-

BRAF = B-Raf Proto-Oncogene, Serine/Threonine Kinase; GFAP = Glial Fibrillary Acidic Protein; IDH = Isocitrate Dehydrogenase; Ki67/MI = Ki-67/Mitotic Index; MAP-2 = Microtubule-Associated Protein 2; NA = Not Available; Olig-2 = Oligodendrocyte Transcription Factor 2; PPH3 = Phospho-Histone H3.