

Supplementary Table 1. Imaging features at time of presentation for the ten cases of CNS high-grade neuroepithelial tumor with *BCOR* exon 15 internal tandem duplication.

Patient ID	tumor location	topography	laterality	size (APxTRxCC) cm	tumor volume (cm ³)	contact dura mater	margins	peritumoral edema	T1 intensity (wrt cortex)	T2 intensity (wrt cortex)	diffusion restriction	apparent diffusion coefficient (10 ⁻³ mm ² /sec)	density (wrt cortex)	Hounsfield unit (wrt cortex 35 HU)	necrosis	calcifications	blood products	central vessel	contrast enhancement intensity	contrast enhancement homogeneity	meningeal dissemination
# 1	supratentorial	frontoparietal	left	8,3 x 6,0 x 7,0	181	yes	well circumscribed	no	hypointense	hyperintense	yes	NA	isodense	36	yes	yes	yes	no	mild	heterogeneous	no
# 2	supratentorial	temporal	right	9,2 x 6,8 x 6,4	208	yes	well circumscribed	no	NA	NA	NA	NA	isodense	34	yes	yes	yes	yes	mild	heterogeneous	NA
# 3	infratentorial	hemispheric	right	4,5 x 4,3 x 5,3	53	yes	well circumscribed	no	hypointense	hyperintense	yes	0,7	NA	NA	no	no	yes	yes	mild to moderate	heterogeneous	no
# 4	supratentorial	temporal	left	4,9 x 4,0 x 3,8	39	yes	well circumscribed	no	hypointense	hyperintense	yes	0,5	isodense	34	yes	yes	no	yes	mild	heterogeneous	no
# 5	supratentorial	frontal	left	8,8 x 7,1 x 6,4	208	yes	well circumscribed	no	hypointense	hyperintense	yes	0,6	isodense	38	yes	yes	yes	yes	mild	heterogeneous	NA
# 6	infratentorial	hemispheric	right	3,9 x 5,9 x 4,0	48	yes	well circumscribed	no	hypointense	hyperintense	yes	0,7	NA	NA	yes	NA	no	yes	mild	heterogeneous	no
# 7	supratentorial	fornix	median	4,6 x 3,0 x 6,2	45	no	well circumscribed	no	hypointense	hyperintense	yes	NA	NA	NA	yes	NA	yes	yes	mild	heterogeneous	NA
# 8	infratentorial	hemispheric	left	4,7 x 3,8 x 3,5	33	yes	well circumscribed	no	hypointense	hyperintense	yes	0,7	hypodense	26	yes	no	yes	yes	mild	heterogeneous	no
# 9	infratentorial	hemispheric	right	3,6 x 2,7 x 5,2	26	yes	well circumscribed	no	hypointense	hyperintense	NA	NA	hypodense	NA	yes	no	yes	yes	mild	heterogeneous	NA
# 10	infratentorial	hemispheric	right	4,3 x 6,1 x 3,5	48	yes	well circumscribed	no	hypointense	hyperintense	yes	0,6	NA	NA	yes	NA	yes	yes	mild to moderate	heterogeneous	no

The mutation type for all tumors is an internal duplication in tandem with a duplicated sequence size ranging between 63 and 114 pb

Supplementary Table 2 . Comparison of imaging characteristics of brain tumors in young children

	CNS high-grade neuroepithelial tumor with BCOR ITD	ETMR	AT/RT	medulloblastoma	posterior fossa ependymoma	supra-tentorial ependymoma	pilocytic astrocytoma	high grade glioma
tumor volume	large	large	variable	variable	variable	large	variable	variable
tumor location	ST and IT	ST and IT	ST and IT	IT	IT	ST	IT > ST	ST > IT
tumor topography	intraparenchymal, peripheral	intraparenchymal	mostly intra-axial	cerebellar hemispheres (SHH), midline (group 3 and 4)	4th ventricle, basal cisterns	intraparenchymal	intraparenchymal	intraparenchymal
margins	well circumscribed	well circumscribed	well circumscribed	well circumscribed	well circumscribed	well circumscribed	well circumscribed	ill-defined margins
peritumoral edema	no	little-to-no	relatively little	variable	no	common	variable	yes
diffusion (solid portion)	reduced diffusivity	reduced diffusivity	reduced diffusivity	reduced diffusivity	variable	reduced diffusivity	increased diffusivity	variable
enhancement (solid portion)	weak	absent or weak	variable	variable (group 4: minimal/no)	non to moderate, heterogenous	variable	strong	strong
necrosis/cysts	yes (central)	no	yes (cysts)	common	possible	yes	yes (cysts)	yes
blood products	common	no	common	rare	common	common	uncommon	common
calcifications	common	common	possible	uncommon	common	common	uncommon	rare
intratumoral central vessel	yes	yes	no	no	no	no	no	no
leptomeningeal dissemination at Δ	no	no	yes	rare (SHH), yes (group 3 and 4)	uncommon	uncommon	uncommon	rare

ST = supratentorial

IT = infratentorial