Cerebral Hemispheric Tumors in Children				
Tumor	**Key Findings**	**généralités**	**Pathology**	**Imaging**
Astrocytoma	Most common tumor (30%!) **low grade (welldefined) -> high grade** MR appearance varies with grade/histo	All age (7-8y) first (30%)	deep in Hemisph, large solid+/-necrosis+/-cystic-nod Pas de ca++	CT: solid= iso or hypo => C+ solid part or mural nodule MR: hypoT1 et hyperT2 => C+ solid part or mural nodule
Giant cell tumor (Astrocytoma)	Develop from ventricular wall Usually near foramen of Monro	All age (5-10y) with STB subependym =>HC!	from ventricular wall (monroe) well-defined, intraventric or deep periventric	CT: solid= iso or hypo => C+ homogene MR: hamartomas & hyperT2 => C+ homogene
Ependymoma	Peritrigonal, heterogeneous MR appearance varies homo => hetero DD: choroid carcinoma	1-5y 30% supratento rarely intraventric!! (P et T) glial way!!	well-defined (DD astrocytoma) 50% Ca+++ frequent cystic (large lesion)	CT: solid = hyperdense 50% cyst + Ca++ => solid part C+ MR: large hetero extensive oedema as astro high grade pfs homo as astro low grade peritrigonal solid isoGray + DWI normal
PNET	Young children, heterogeneous Solid part: gray matter intensity renal US (PNET)	0-5y 90% undiff cells HISTO= MBome ATRT NBome SUBTYPE: MEome, GNBome, EBome DD: glioma HGrade, ependymoma,ATRT	deep in Hemisphere, large "well-defined"(larger than seen) Heterogenous 50% necrosis 50% Ca+++ M+ => LCR, liver, bone, lungs 10% Hemorr	CT: solid = hyperdense / microCa++=> solid C+ (homo/hetero/ring) MR: solid part isoGray & DWI up cystic part hypoT1 hyperT2 hypoFLAIR necrosis part hypoT1 hyperT2 hyperFLAIR Hemorr part hyperT1 hyperFLAIR
Astroblastoma	Peripheral hemisphere. Lobulated. Solid/cystic. Little edema. Solid part: gray matter intensity on T2	Children and teens (14y) Other neuroepith tumor TM <=> TB NON DIFF ON IMAGING	solid (+/- cystic) Large well-defined, lobulated Periph hemisphere	CT: hyperdense Ca++ + oedema heteroT2 (microcysts) small vasogénic oedema (pfs important) hétéro C+ solid part (ring around cost)
Mixed neuronal-glial tumors (GGome; GCome)	3% T+ SNC Cortical + calvarium erosion Calcification, cysts common	8-12 y +/- hippocampal sclerosis **T & P** (DD astro/ ODGome) **3°V pineal HT** (DD astro)	Small firm defined microCa+++ cystic	CT: well-defined cortical, hypo + small oedema + cyst + Ca+ **+/-**C MR: hyperT2 (solid or cyst or mixed or mural nodule) **+/-**C
Oligodendroglioma	rare pédia slow growing => calvarium erosion	hemispheric F &T	Ca+ frequent	CT: round sharply defined hypo-isoGRAY CA+ & cyst (40%) +/-C MR: aspecif (sharply defined, Ca+) BUT small or no C+ (DD astro!)
Desmoplastic neuroepithelial tumors	Periph / Large cysts, solid part invades dura desmoplastic stroma (fibroblasts)	Young infants (5m)	Large invading dura cysts + always cortical solid	CT: solid = hyperdense => solid intense C+ MR: isoT1 et isoT2 => solid intense C+
Dysembryoplastic neuroepithelial tumor (DNET)	Cortical location, Marked T2 hyperintensity	TB, Asympto or refractory epilepsy	60% temporal: solid+ cyst or microcyst (floating neuron) near cortical dyplasia	CT: well defined, lobulated, hypodense -C MR: hypoT1 et hyperT2 + 40% Ca++ & cyst DWI up / spectro N
Atypical teratoid/rhabdoid tumor	Young infants. Often large at presentation Cortical intensity on T2, cysts	0-10y (<4y) Embryonal T+ (as MBome & PNET)	50% supratento, large++ (5cm) undefined =>non surgical solid +/- necrosis +/- cystic (histo: varying cell type+++)	CT:solid = hyperdense => hétéro C+ solid part MR: solid isoGray + necrosis + cyst + Ca++ DWI up NON DIFF ON IMAGING ATRT, EPENDYMOMA (<2Y) OR PNET
Medulloepithelioma	No enhancement	*0-5y* *subtype PNET*	periventric (or suprasellar, cvt) well-defined homogenous TM++ (hemorr)	CT: iso or hypo => C- MR: hypoT1 et hyperT2 => C-
Plasma cell granuloma	inflamatory pseudotumor (lung, cns) calvarium erosion or hyperostose if paradural (DD meningioma)	All ages	everywhere, inside parenchyma or outside If inside, preferencially peripherical EX: plexus choroid, cavernous sinus	CT: hyperdense Round, sharply defined MR: HypoT2 C+ homogenous
Meningioangiomatosis	Benign hamartomatous NF2	10-15 y	peripherical mass without effect mass Ca++ & cysts	CT: hyperdense MR: Hypointense with hyperT2 peripherical C+ hetero
Germinoma	Basal ganglia		Hetero with solid and cystic areas; solid portions	isointense to gray matter on T2 and uniformly C+
Postransplant lymphoproliferative disorder in ID	Markedly enhance		Marked vasogenic edema	Multiple foci of gray matter intensity on T2slightly hyperintense to gray matter on FLAIR Markedly enhance
Teratoma	0-1 y	Midline	hétéro with fat Ca** cyst	hétéro with fat