Supplementary Table 1. Etiology of hydrocephalus in 411 infants

Association	N (%)	
Hemorrhage	**106**	
Intraventricular		intrauterine (9), premature (74), term (9), onset unknown (4)
Intraparenchymal		Intrauterine (5), premature (1), term (4)
Neoplasm	**20**	ATRT (4), ependymoma (4), DIGG (2), medulloblastoma (2), choroid plexus carcinoma (1), atypical choroid plexus papilloma (1), choroid plexus papilloma (1), ependymoblastoma (1) , pilocytic astrocytoma (1), pilomyxoid astrocytoma (1), tectal plate glioma (1), chloroma (1)
Infection	**16**	premature (3), term (13)
Trauma	**8**	
Other extrinsic causes	**5**	Anoxic brain injury (3), ischemic stroke (1), acquired dural AV fistula (1)
Probable cryptic extrinsic causes	**20**	
Total extrinsic hydrocephalus	**175 (43%)**	
Total developmental hydrocephalus	**236 (57%)**	

ATRT: atypical teratoid rhabdoid tumor, DIGG: desmoplastic infantile ganglioglioma

Supplementary Table 2. Key radiographic and clinical features used to define categories

Category	AQ obstructed?	PF crowded?	Enlarged XAX?	Other
MM-associated	±	**+**	**–**	Chiari II malformation, myelomeningocele
Proximal obstruction	**+**	±	**–**	
Distal obstruction	Often enlarged	**+**	±	
Cysts and cephaloceles	±	±	±	Intracranial cyst(s) or cephalocele.
Communicating	**–**	Enlarged posterior fossa extraaxial space with cerebellar compression when severe	Enlarged when mild, reduced when severe	

AQ: aqueduct, PF: posterior fossa, XAX: extra-axial space.

Supplementary Table 3. Additional brain malformations by category

Category	Additional Brain Malformations
NTD-associated (NTD) N=78	Chiari II (71), Chiari II with PNH (5), partial Chiari II with cystic, partially absent cerebellum (2)
Proximal obstruction N=59	Isolated aqueductal obstruction (39), RES and MES (7), MES (7), PNH and aqueductal nodule(3), cobblestone malformation with kinked brainstem (2), enlarged thalamic massa intermedia (1)
Distal obstruction N=25	Chiari I (7), Chiari I with megalencephaly (3), Chiari I, megalencephaly and perisylvian PMG (1), megalencephaly (2)
Cysts and cephaloceles N=39	
Supratentorial ± infratentorial (17)	With extra-axial cyst: holohemispheric dysplasia (1)
	With IH cyst only: ACC (2), ACC and PNH (2), ACC, infolded, mass-like cortical dysplasia, cerebellar dysplasia (1)
	With multiple cysts, including IH: ACC and mass-like dysplasia (1), ACC and mass-like dysplasia and brainstem hypoplasia (1),
	With multiple cysts, excluding IH: PNH, deep cortical infolding (1), ACC, PMG, extensive ventricular heterotopia (1)
Infratentorial only (15)	4V cyst: classic DWM (2), fused thalamus and PNH (1)
Cephaloceles (7)	Localized area of Infolded, dysplastic cortex (1), extensive cerebral and cerebellar dysplasia and distortion (2), cystic 4V contiguous with meningocele, cerebellar hypoplasia (DWM-like)(1)
Communicating N=31	PNH (2), hypoplastic cerebellar vermis (1), absent septum (1), ACC (1)

PNH: periventricular nodular heterotopia, RES: rhombencephalosynapsis, MES: mesencephalosynapsis, ACC: agenesis of the corpus callosum, PMG: polymicrogyria, DWM: Dandy-Walker malformation