A study of Reynolds et al. aimed to be the first to describe pediatric hydrocephalus epidemiology and outcomes in Lusaka, Zambia.

This retrospective cohort study included patients < 18 years of age who underwent surgical hydrocephalus treatment at Beit CURE Hospital of Zambia, from August 2017 to May 2019. Surgeries included ventriculoperitoneal shunt insertions, revisions, and endoscopic third ventriculostomies (ETVs) with or without choroid plexus cauterization (CPC). A descriptive analysis of patient demographics, clinical presentation, and etiologies was summarized, followed by a multivariable analysis of mortality and 90-day complications.

A total of 378 patients met the inclusion criteria. The median age at first surgery was 5.5 (IQR 3.1, 12.7) months, and 51% of patients were female (n = 193). The most common presenting symptom was irritability (65%, n = 247), followed by oculomotor abnormalities (54%, n = 204). Postinfectious hydrocephalus was the predominant etiology (65%, n = 226/347), and 9% had a myelomeningocele (n = 32/347). It was the first hydrocephalus surgery for 87% (n = 309) and, of that group, 15% underwent ETV/CPC (n = 45). Severe hydrocephalus was common, with 42% of head circumferences more than 6 cm above the 97th percentile (n = 111). The median follow-up duration was 33 (IQR 4, 117) days. The complication rate was 20% (n = 76), with infection being most common (n = 29). Overall, 7% of the patients died (n = 26). Postoperative complication was significantly associated with mortality ($\chi2 = 81.2$, $p < 0.001$) with infections and CSF leaks showing the strongest association ($\chi2 = 14.6$ and 15.2, respectively, $p < 0.001$). On adjusted multivariable analysis, shunt revisions were more likely to have a complication than ETV/CPC or primary shunt insertions (OR 2.45 [95% CI 1.26-4.76], $p = 0.008$), and the presence of any postoperative complication was the only significant predictor of mortality (OR 42.9 [95% CI 12.3-149.1], $p < 0.001$).

Pediatric postinfectious hydrocephalus is the most common etiology of hydrocephalus in Lusaka, Zambia, which is similar to other countries in sub-Saharan Africa. Most children present late with neglected hydrocephalus. Shunt revision procedures are more prone to complication than ETV/CPC or primary shunt insertion, and postoperative complications represent a significant predictor of mortality in this population [1].

1)
Reynolds RA, Bhebhe A, Garcia RM, et al. Pediatric hydrocephalus outcomes in Lusaka, Zambia [published online ahead of print, 2020 Sep 11]. J Neurosurg Pediatr. 2020;1-12. doi:10.3171/2020.5.PEDS20193

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