

Insurance Status and Chiari Malformations: An NIS KID Analysis

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Background: Chiari Malformations (CM) are a common pediatric neurosurgical disease with variations in presentations and management. Here we describe associations between insurance status and presentation, treatments, and outcomes of pediatric patients with CM.

Methods: Patients were selected from 2016-2019 Kids' Inpatient Database using the ICD10 code Q07.0. Data defining demographics, clinical characteristics, and outcomes were extracted. Pearson's chi-squared test was used to describe associations between variables.

Results: 7404 patients had CM. The median age was 5 (IQR 0-12), 50.4% of patients were female and 52.1% were on Medicaid insurance.

Patients on Medicaid were less likely to have CM without spina bifida (SB) or hydrocephalus (0.718 (0.634-0.812) $p < 0.001$) or CM with SB (0.821 (0.72-0.936) $p < 0.05$). However, they were more likely to have CM with hydrocephalus (1.163 (1.019-1.327) $p < 0.05$) and CM with SB and hydrocephalus (1.221 (1.114-1.339) $p < 0.001$).

Patients on Medicaid were less likely to undergo decompression (0.52 (0.411-0.658) $p < 0.001$) and more likely to have complications of sepsis (1.94 (1.441-2.612) $p < 0.001$), acute kidney injury (2.23 (1.648-3.018) $p < 0.001$), and mechanical ventilation (1.444 (1.243-1.679) $p < 0.001$). Medicaid was associated with a length of stay greater than 10 days (1.328 (1.187-1.487) $p < 0.001$). There were no associations between Medicaid and discharge to non-home or inpatient death.

Conclusions: Patients on Medicaid have more severe forms of CM but are less likely to undergo surgical intervention. Complications and length of stay are increased in this population.

Abbreviations: CM, Chiari Malformation; SB, spina bifida