Factors Associated with Delayed Presentation of Patients with Craniosynostosis

Ferry, Andrew M¹, Han Zhuang Beh², Rami P Dibbs², Michelle G Roy², Laura A Monson²
1 Baylor College of Medicine, Department of Surgery, Plastic Surgery
2 Texas Children’s Hospital, Surgery, Plastic Surgery

Keywords: Surgery, Plastic; Craniosynostosis; Access to Health Care

Background: Craniosynostosis is a rare condition characterized by premature fusion of one or more cranial sutures. Certain surgical interventions can be time dependent due to the rapid brain growth that drives cranial expansion during the first year of life. The purpose of this study is to identify risk factors for delayed presentation to craniofacial clinics that would obviate certain surgical options for patients.

Materials/Methods: Retrospective chart review was conducted from November 2011 to September 2018 to identify patients with single suture craniosynostosis who presented for initial evaluation by the craniofacial team at Texas Children’s Hospital. Patients with a syndromic diagnosis or a history of correctional surgery were excluded. Patients that presented at 6 months of age or older were considered to have presented in a delayed fashion. We analyzed 14 variables that could potentially be associated with delayed presentation.

Results: A total of 208 patients with craniosynostosis were identified upon chart review with 142 (68%) meeting our inclusion criteria. Of the 142 patients, 72 (51%) presented in a delayed fashion. Non-white patients were more likely to present in a delayed fashion compared to white patients (61% vs 36%, p=0.004). Patients who had Medicaid insurance were more likely to present in a delayed fashion compared to those who were privately insured (61% vs 44%, p=0.047). Compared to patients who presented on time, patients who presented in a delayed fashion were more likely to have other documented comorbidities (49% vs 30%, p=0.023), developmental abnormalities (24% vs 6%, p=0.003), and present with signs of elevated intracranial pressure (11% vs 1%, p=0.017). Sex, language, income, location, family makeup, being the first born, type of referring provider, and undergoing pre-appointment imaging were not associated with delayed presentation.

Conclusions: Delayed presentation of patients with nonsyndromic craniosynostosis occurs frequently with minority patients and patients with Medicaid insurance being particularly at risk.

Images / Graph / Table: No image uploaded