Craniocervical fusion

Craniocervical junction abnormalities include a wide variety of disorders and can be classified into congenital or acquired. A study by Alharbi et al. aimed to review the surgical outcome of pediatric patients who underwent craniocervical fusion and/or atlantoaxial fusion.

In a retrospective cohort study including all pediatric patients (≤ 18 years) who underwent craniocervical and/or atlantoaxial fusion between 2009 and 2019 at the quaternary medical city.

A total of 25 patients met our criteria and were included in the study. The mean age was 9 years (range: 1-17 years). There was a slight female preponderance (N = 13; 52%). Most patients (N = 16; 64%) had non-traumatic/chronic causes of craniocervical instability. Most patients presented with neck pain and/or stiffness (N = 14; 56%). The successful fusion of the craniocervical junction was achieved in most patients (N = 21; 84%). Intraoperative complications were encountered in 12% (N = 3) of the patients. Early postoperative complications were observed in five patients (20%). Five patients (20%) experienced long-term complications. A revision was needed in two patients (8%). Older age was significantly associated with higher fusion success rates (p = 0.003). The need for revision surgery rates was significantly higher among the younger age group (3.75 ± 2, p = 0.01).

The study demonstrates the surgical outcome of craniocervical and/or atlantoaxial fusion in pediatric patients. The successful fusion of the craniocervical junction was achieved in most patients. A significant association was found between older age and successful fusion, and between younger age and need for revision surgery [1)]

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Alharbi A, Alnefaie N, Alkhaibary A, Aledrees A, Almadani WH, Alhussenan M, Khairy S, Alshaya W. Pediatric craniocervical fusion: predictors of surgical outcomes, risk of recurrence, and re-operation. Childs Nerv Syst. 2022 May 5. doi: 10.1007/s00381-022-05541-4. Epub ahead of print. PMID: 35511272.