

Congenital cervicothoracic dislocation: a rare condition with a high risk of neurological complications.

Background: Congenital cervicothoracic dislocations (CCTD) are rarely described in the literature. The exact causes of their occurrence poorly studied and treatment tactics vary

Research question: What are the main reasons of CCTD occurrence? What the optimal treatment tactics and how it changes depending on age?

Design: Case series and literature review

Methods: We performed a literature review and found 6 literature sources that describe CCTD and its treatment. In addition, we analyzed the data of 5 own patients

Results: Only 8 patients from 6 sources with CCTD and a description of treatment tactics was found. Description and visualization of the pathology in most cases were poor. The treatment was long and accompanied by a large number of complications. Among 5 own patients 4 had Klippel-Feil syndrome (average age 5 years on the moment of first surgery) and one had neurofibromatosis (15 years old). Every patient had preoperative neurological disorders. Posterior instrumental fixation with posterior vertebral body resection was performed in 4 cases and 1 patient had combined surgery (posterior instrumental fixation with anterior decompression and plate fixation). Neurological deterioration happened in 2 patients, neurological improvement was in 2 patients and 1 patient was stable. We have divided all complications according to the Dindo-Claiven: 4 Grade II, 5 Grade IIIB and 1 Grade IV types. The total number of surgeries related to complications was 4. Average follow-up time after from latest surgery was 5 years (1 - 9.9 years)

Discussion: CCTD due to congenital malformations of the spine or systemic diseases are an extremely rare and difficult to treat pathology. Tactics of treatment is determined individually. But according to the literature and our own experience, early multi-stage combination treatment is preferred, although it requires more effort and involves with a high risk of complications

