Tethered cord syndrome case series

Bruzek et al. retrospectively reviewed all patients with a syrinx and tethered cord who presented to a single institution over an 11-year interval. Patients with open neural tube defects were excluded. Thirty-one patients were identified, 25 of whom had both clinical and imaging follow-up after surgery. Patients were grouped according to the etiology of the tethered cord. Clinical outcomes and syrinx characteristics were recorded.

Of the 25 patients with tethered cord, 68% (n = 17) were male. The average age at presentation was 2.5 years (0-10.1 years) and age at surgery was 3.7 years (range 1 day to 17 years). Etiologies of tethered cord were lipomyelomeningocele (n = 8), thickened/fatty filum (n = 7), intradural lipoma (n = 5), myelocystocele (n = 2), meningocele (n = 2), and diastematomyelia (n = 1). Twenty-three of the patients underwent primary untethering, whereas 2 patients had received untethering previously at another institution. The average syrinx length and width prior to surgery were 4.81 vertebral levels (SD 4.35) and 5.19 mm (SD 2.55 mm), respectively. Conus level ranged from L1 to S3. Patients were followed for an average of 8.4 years (1.35-15.85 years). Overall there was no significant change in syrinx length or width postoperatively; the average syrinx length increased by 0.86 vertebral levels (SD 4.36) and width decreased by 0.72 mm (SD 2.94 mm). Seven of 25 patients had improvement in at least one presenting symptom, including scoliosis, weakness, bowel/bladder dysfunction, and pain. Eight patients had stable presenting symptoms. Six patients were asymptomatic and 5 patients had new or worsening symptoms, which included scoliosis, pain, or sensory changes.

Although some syrinxes improved after surgery for tethered cord, radiological improvement was not consistent and did not appear to be associated with change in clinical symptoms. The decision to surgically untether a cord should be focused on the clinical symptoms and not the presence of a syrinx alone. Further studies are needed to confirm this finding [1)].

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162 children who underwent surgical treatment for TCS in a 15-year period were reviewed retrospectively. Their demographic, clinical, radiological, and surgical features were documented. They were divided into two groups as primary and secondary TCS, and the surgical technique for each group was demonstrated. Untethering the spinal cord and correction of the associated malformation were the standard surgical technique for each patient. The results of the treatment were summarized.

Among the 162 children, 101 (62.3 %) of them were female and 61 were male with a mean age of 62 months. Primary TCS was detected in 43 patients while secondary TCS was found in 119 (73.4 %) patients. Hypertrichosis was the most common physical finding while back pain was the common complaint. Spinal lipoma, split cord malformation, dermal sinus tract, and myelomeningocele were the associated malformations for secondary TCS.

Children should be individualized for the treatment of TCS. Each patient must be evaluated neurologically and radiologically for the accurate diagnosis. Surgical untethering is the safe and effective method of treatment for children with TCS [2)].

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Bruzek AK, Starr J, Garton HJL, Muraszko KM, Maher CO, Strahle JM. Syringomyelia in children with closed spinal dysraphism: long-term outcomes after surgical intervention. J Neurosurg Pediatr. 2019 Dec 13:1-7. doi: 10.3171/2019.9.PEDS1944. [Epub ahead of print] PubMed PMID: 31835253.
2)

Geyik M, Alptekin M, Erkutlu I, Geyik S, Erbas C, Pusat S, Kural C. Tethered cord syndrome in children: a single-center experience with 162 patients. Childs Nerv Syst. 2015 Sep;31(9):1559-63. doi: 10.1007/s00381-015-2748-9. Epub 2015 May 22. PubMed PMID: 25997405.