

ORAL PRESENTATION

Open Access

Conservative treatment of juvenile with Chiari I malformation, syringomyelia and scoliosis. Two case reports

M Rigo^{1*}, B Janssen², R Campo², L Tremonti²

From 9th International Conference on Conservative Management of Spinal Deformities - SOSORT 2012 Annual Meeting
Milan, Italy. 10-12 May 2012

Background

Scoliosis improvement after surgical treatment of Chiari I and syrinx has been reported [1]. Incidence of scoliosis progression after decompression surgery has been reported as high as 48%. The conservative treatment with brace in these patients is not effective and scoliosis is typically progressive [2]. Spontaneous resolution of CT syrinx and Chiari I in paediatric population is uncommon. We have previously published a unique case report of an 8-year-old girl, showing resolution of syrinx and Chiari I, as well as scoliosis reduction of scoliosis during brace treatment [3]. We present results after longer follow up, together with a new case of good response to bracing, in a girl showing scoliosis progression after neurosurgical treatment.

Case Presentation

First case presentation

A 7-year-old girl who showed scoliosis progression from 44° to 55° six months after neurosurgical decompression to treat Chiari I (10-11 mm tonsillar ectopia) associated with C5-T11 syrinx was subsequently recommend going under scoliosis surgery (rejected). Eight months following neurosurgery, patient began full-time treatment with a Chêneau type brace (RSC). She started later a program of specific exercises based on Schroth-Barcelona (BSPTS). At 12 years of age (5 years follow-up) she shows a 6° main thoracic curve in her 4th brace, although still at Risser 0. Formetric reports a totally regressed back asymmetry and physiological sagittal profile. The patient is

asymptomatic and continues full time bracing and exercises.

Second case presentation

A 13-year-old girl started full time bracing when she was 8 years old, after showing progression from 36° to 47° in five months in her right thoracic scoliosis associated with symptomatic Chiari I and C4-T9-10 syrinx. She showed spontaneous resolution of Chiari I and almost resolution of syrinx with no recurrence, and good response to bracing. At five years follow-up she continues partial-time bracing (16 H) and BSPTS exercises, asymptomatic, with a main thoracic curve of 17° (combined with 17° functional left lumbar), one-year post-menarche and Risser 3. Back asymmetry is totally regressed and sagittal profile physiologic.

Conclusion

Conservative treatment should be considered in patients with Chiari I/syrinx associated to progressive scoliosis, prior to or post-neurosurgical intervention, and prior to scoliosis surgery.

Author details

¹Institut Elena Salvá, Barcelona, Spain. ²ScoliosisRehab, Stevens-Point, Wisconsin, USA.

Published: 3 June 2013

References

1. Mollano AV, Weinstein SL, Menezes AH: Significant scoliosis regression following syringomyelia decompression: case report. *Iowa Orthop J* 2005, **25**:57-59.
2. Colombo LF, Motta F: Consensus conference on Chiari: a malformation or an anomaly? Scoliosis and others orthopaedic deformities related to Chiari 1 malformation. *Neurol Sci* 32(Suppl 3):S341-343.

¹Institut Elena Salvá, Barcelona, Spain
Full list of author information is available at the end of the article

- LM RMaM: Spontaneous resolution of a Chiari malformation and cervicothoracic syrinx in a 9 years old girl with a 47° scoliosis responding favorably to bracing. *scoliosis* 2009, **4**(suppl 1):0-58.

doi:10.1186/1748-7161-8-S1-O52

Cite this article as: Rigo *et al.*: Conservative treatment of juvenile with Chiari I malformation, syringomyelia and scoliosis. Two case reports. *Scoliosis* 2013 **8**(Suppl 1):O52.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

