Reviewer's report

Title: Conservative treatment of idiopathic scoliosis according to FITS concept: presentation of the method and preliminary radiological and clinical results respecting SOSORT and SRS criteria.

Version: 1 Date: 30 June 2011

Reviewer: Martha Hawes

Reviewer's report:

General response:

This research paper describes results over an average followup of 2+ years, among 115 children treated using a specific therapeutic approach. The introduction succinctly outlines the need for approaches that treat scoliosis in the absence of diagnostic information regarding its cause. Methods are outlined in a straightforward manner, with an emphasis on general principles of scoliosis development and progression. Because scoliosis is a symptom that develops in response to many injuries, infections and genetic issues, there is a need for patients to be treated as individual cases, a strategy that is implicit here within the name of the treatment and executed in the practice. Most important, in the absence of curative strategies, is a need to educate and engage patients in the effort to manage symptoms over a lifetime. The strategies implicitly recognize and build on the established body of research on molecular and biochemical underpinnings of spinal deformity. These studies have revealed that in most cases (with the exception of congenital bone deformities) attention to soft tissue imbalances will be critical for curvature stabilization and/or improvement in clinical symptoms (e.g. Will RE, Stokes IA, Qiu X, Walker MR, Sanders JO. 2009 Cobb angle progression in adolescent scoliosis begins at the intervertebral disc. Spine (Phila Pa 1976). 34(25):2782-6; and Villemure I, Stokes IA. 2009. Growth plate mechanics and mechanobiology. A survey of present understanding. J Biomech. 42(12):1793-803.)

As the author points out, improvement in magnitude of Cobb angle does not reliably result in improvement in clinical symptoms including pain, respiratory impairment and psychological distress. Therefore it is important that this study includes a comprehensive analysis of outcome beyond curvature magnitude. As pointed out, a longer evaluation would be of benefit, and this study can provide a foundation for such (i.e in the manner of the Iowa series, for example). The inclusion of >100 patients is well beyond the size of the majority of studies on scoliosis outcome. For example, among 82 studies of surgery patients, the majority included fewer than 50 subjects (reviewed in Disability and Rehabilitation 30: 808-817, PDF attached, see table 1).

Revisions:
compulsory

1. The style and content are good, but the English grammar and spelling throughout the manuscript need to be repaired.

2. RE: conclusion #3—I’m not sure of the meaning here.

discretionary:

1. RE: ‘conclusions’ #1—some will argue that this has not been documented since some argue that any changes that occur in immature patients would have occurred anyway. A more important conclusion, in my view, is that this study documents changes occurring in correlation with FITS, and this will provide a baseline to examine whether long-term changes follow.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.