Reviewer's report

Title: Surgical and conservative treatment of patients with congenital scoliosis: A search for long-term results

Version: 1 Date: 31 October 2010

Reviewer: Elias Vasiliadis

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- Major Compulsory Revisions

Background

1. The background section is too long and should be shortened. In the present study, the background section is a well written review about congenital scoliosis, but a summary of a search of the literature to indicate why this study was necessary and what it aimed to contribute to the field is missing. The section should end with a very brief statement of what is being reported in the article.

2. In the 9th paragraph of Background section, it is written that a block vertebra is a failure of formation which is incorrect.

3. In the 14th paragraph of Background section it is written, “… patients with segmentation failures will not benefit from conservative treatment at all…”, There are types of congenital scoliosis with failure of segmentation who do not require treatment, such as non-segmented hemivertebra, incarcerated hemivertebra, wedged vertebra and many patients with semisegmented hemivertebra, depending on their location. Surgery is indicated mainly for fully segmented hemivertebra or failure of formation with a unilateral unsegmented bar. It is not clear in the literature, which type of congenital scoliosis requires conservative treatment with a brace, because either the progression of the deformity is minor and only observation is needed, or the progression is severe and an operation is necessary.

4. In the 24th paragraph of Background section it is written, “As pointed out above … some will respond to conservative management”. It is not clear how this statement was pointed out in the background section.

Methods

1. The authors should specify the inclusion or exclusion criteria they followed in order to select studies. Congenital scoliosis is a group of heterogeneous spinal anomalies with different natural history and prognosis and this should also be taken into consideration.

2. More details should be provided regarding data collection and analysis, including assessment of risk of bias in included studies.

Results
1. The articles which met the inclusion criteria should be mentioned precisely. Expressions such as “over of 1750”, “more than 800” and “around 40” should be avoided. The same should be done for excluded studies.

2. A table with all the included articles is helpful. This table must include the authors, the year of publication, the number of patients, the type of congenital scoliosis, the type of operation, the time of follow up and the level of interest of each article.

Discussion

1. The first paragraph of the discussion section is referred to idiopathic scoliosis and this should be mentioned.

2. It is not clear whether the papers analyzed in the discussion section are those which met the inclusion criteria or not. If so, they should be moved to the results section.

3. In the 18th paragraph of the discussion section, “With regard to conservative treatment…” the case series of three patients has many weak points. It is not clear which type of congenital scoliosis the first two patients had (did they needed treatment?) and the result of the third patient who refused surgery cannot be characterized as an acceptable.

Conclusion

1. The phrase “according to the results of our study in patients with formation failures, a conservative approach could be followed” should be omitted. The only evidence provided apart from the case series mentioned above is a patient with a wedged vertebra and another patient with an incarcerated hemivertebra, who do not require treatment in principle. Alternatively, a phrase stating that there is no evidence for conservative treatment of congenital scoliosis should be included, to be in accordance with the purpose of the present paper.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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'