Reviewer's report

Title: Assessment of angle velocity in girls with adolescent idiopathic scoliosis

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Reviewer: YP Charles

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Re: 'Assessment of angle velocity in girls with adolescent idiopathic scoliosis'

Ferran Escalada, Ester Marco, Roser Belmonte, Esther Duarte, Josep M Muniesa, Marta Tejero, Roser Boza and Enric Cáceres

This is an interesting and well conducted study, nevertheless there are some points that need to be clarified and completed:

1. There is no mention about the average, SD min and max values of Cobb angles in each group (observation versus brace) rather than indicating the number of levels in table 1. This data needs to be added.

2. Are lumbar curves more frequent in the observation group? Are these smaller curves than thoracic ones? The distribution of curve patterns and Cobb angles should be detailed in a table for each group.

3. Did the authors notice a different curve progression velocity for different curve types? Lumbar curves are usually at a lower risk of progression than thoracic curves.

4. Menarche was used as an indicator to roughly divide accelerating and decelerating growth phases. It would be suitable to use at least one indicator of skeletal maturity which is more precise that menarche (Sanders et al. JBJS Am 2007, Charles et al. JBJS Am 2007). Triradiate cartilage closure or Risser stage 1 could be retrospectively used from full spine radiographs.

5. Was the onset of PHV detected in all patients and how was the period of PHV detected?

6. It would further be interesting to compare growth and angle velocities compared to triradiate cartilage closure, Risser 0 and 1, which is probably more precise than menarche and which represent standard parameters in the management of AIS.

7. In the discussion, the authors mention that the effect of the brace is responsible for growth deceleration after menarche. This hypothesis needs to be deleted, since this period is the phase of growth deceleration (Diméglio in Morissy, Pediatric Orthopaedics and J Pediatr Orthop 2000)

Level of interest: An article whose findings are important to those with closely related research interests
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'