Reviewer’s report

Title: Is a Persistent Central Canal a Risk Factor for Neurological Injury in Patients Undergoing Surgical Correction of Scoliosis?

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Reviewer: Mamoru Kawakami

Reviewer's report:

This retrospective study was conducted to examine the presence of a persistent central canal (PCC) within the spinal cord results in an increased risk of neurological injury during surgical deformity correction. The authors concluded that there is no evidence to suggest a PCC increases the risk.

This reviewer does have certain questions and criticisms which should be addressed by the authors prior to publications.

The authors defined a PCC utilizing MRI. Centrally located, intra-medullary cavity was defined as a PCC. This reviewer does think that the central canal is communicating with the 4th ventricle. Is there any difference between the central canal and a PSS? The authors described that a PCC is an intra-medullary cavity of a maximum diameter of 4mm. Is the difference only a diameter of the canal or cavity? Why did the diameter define as 4mm? In addition, please make clear the difference between a syrinx associated with syringomyelia and a PCC. Were all PCCs in this series seen in the level of scoliosis?

Regarding the control group, the authors noted that the gender and age were matched in this study. How did the authors include these 44 patients? Did the authors use propensity score matching? This reviewer does think that the severity of scoliosis, correction levels and operation methods should be also matched in the present study.

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