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REVIEWER'S COMMENT

Comments on the article: MW construct in fusion for neuromuscular scoliosis (Eben A. Carroll, Jeffrey Scott Shilt, Laura Jacks)

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The authors have chosen to report on a series of patients treated by the MW sacropelvic fixation. This is the first clinical published report since we described the surgical technique in 1998 [2].

For a long time, Luque Galveston Instrumentation has been considered as the gold standard for the surgical management of pelvic obliquity in neuromuscular scoliosis. Initially described in the early 1980s by Allen and Ferguson, this brilliant and original breakthrough was the first truly segmental instrumentation that would control the pelvis and allow satisfactory correction of pelvic obliquity [1].

However, with increased follow-up it became recognized that some problems were inherent to the technique: Windshield wiper signs around the intrapelvic portion of the rods, broken rods and pseudarthroses were not infrequent [3]. Finally, the inability to achieve distraction or compression over the high or low side of the pelvis after having cantilevered the rods to the spine resulted in incomplete correction of the pelvic obliquity. Dubousset using an original concept based on ilio-sacral screws addressed the possibility to compress or distract the pelvis to level it under the trunk [5]. However, in our opinion the lack of true control of the iliac wings would result in insufficient segmental fixation of the sacro-pelvis, especially in stiff and large curve. By combining iliac screws inserted in a Galveston fashion and iliosacral screws, the best of the two worlds would therefore be together in a same construct. Such a strong sacropelvic fixation would allow cantilevering and compression distraction. The credit for such an advanced fixation should go to Marc Asher who did (without our knowledge) an initial experiment slightly before we published our surgical technique which we coined as MW fixation.

We had at McGill a very large population of cerebral palsy with pelvic obliquity. The average curve of our patient population was 84° with a pelvic obliquity of 42° in average. Our rate of correction for such stiff curves was 50% of the main lumbar curve, but the pelvic obliquity was corrected to 80% on an average. Comparing our results to the literature, we achieved a better correction than the Galveston Fixation where smaller curves had been addressed in most papers [4].

Looking at the results of Shilt and colleagues and our unpublished data, it is now clear that the MW fixation has by far superseded the classic Gold Standard represented by the Galveston pelvic fixation. By using the MW fixation, the need for an anterior release of the lumbar spine becomes unnecessary in most cases. As such, a strong sacropelvic fixation allows cantilevering of the pelvis and compression distraction of the low, high side of the pelvis in order to perfectly level the pelvis and achieve maximum correction of the pelvic obliquity. We therefore, congratulate the authors for their results and their report on this technique.

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References

1. Allen BL Jr, Ferguson RL (1982) The Galveston technique for L rod instrumentation of the scoliotic spine. Spine 7(3):276–284
2. Arlet V, Marchesi D, Papin P, Aebi M (1999) The 'MW' sacropelvic construct: an enhanced fixation of the lumbosacral junction in neuromuscular pelvic obliquity. Eur Spine J 8(3):229–231
3. Gau YL, Lonstein JE, Winter RB, Koop S, Denis F (1991). Luque-Galveston procedure for correction and stabilization of neuromuscular scoliosis and pelvic obliquity: a review of 68 patients. J Spinal Disord 4(4):399–410
4. Liang J, Ouellet J, Arlet V (2005) Correction of severe pelvic obliquity with the MW fixation. A review of 20 consecutive cases with literature comparison. Presented at World Spine, Rio de Janeiro
5. Miladi LT, Ghanem IB, Draoui MM, Zeller RD, Dubousset JF (1997) Iliosacral screw fixation for pelvic obliquity in neuromuscular scoliosis. A long-term follow-up study. Spine 22(15):1722–1729