Editorial

Commentary on “Risk Factors of Unsatisfactory Robot-Assisted Pedicle Screw Placement: A Case-Control Study”

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See the article “Risk Factors of Unsatisfactory Robot-Assisted Pedicle Screw Placement: A Case-Control Study” via <https://doi.org/10.14245/ns.2142560.180>.

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Zhang et al.¹ have shared their experience with robot-assisted pedicle screw placement from their 163 patients undergoing corrective lumbar posterior fixations, have pin-pointed out the three risk factors that might prelude the accurate screw placement deterrence even under the sophisticated robotics assistance. Despite the pioneering effort from the authors with the inclusion of more than 780 screw placement maneuvers over a year span aided with diverse statistical analyses, the reviewer cannot preclude the feeling that the authors have restrained themselves into the too simplified or anticipated results; ‘obesity, osteoporosis, or remote segments from the tracker matters.’

Technical wisely, even in some fully exposed occasion, it is sometimes not feasible to manually or faithfully obey the route or tract suggested by robotic arms from a fat, fragile subjects intraoperatively due to regional anatomical distortion. Subsequently, as have brought up with the controversies regarding the surgical navigation usage previously, these phenomena or limitations might be fraught with the skepticisms about the robot-assisted spinal surgery efficacy/efficiency both in terms of clinical aspect and cost-utility.

Despite all these elaborations from the authors regarding the beneficial aspects of the robotics application on the spine surgery field, their conclusions still lack the promising impact; from the reviewer’s perspective, ‘it is unclear if the complication rate is significantly different compared to traditional methods of spinal instrumentation.’² Validation on the measurements methods of the screw placements accuracies as well as a fully comparative fashioned analysis even after the few additions of historic data from the previously published references, potential suggestions/ directions that might drive to overcome the current steep learning curves and technological glitches, commitments both from the company and current-in-use institutes on their efforts to dispose of the current financial hurdles, and the necessity of a solid healthcare infrastructure to support these machines³⁻⁵ usage might be able to add the future scientific value for this analysis.

CONFLICT OF INTEREST

The author has nothing to disclose.

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Title: Don Quixote
Artist: Pablo Picasso
Year: 1955
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