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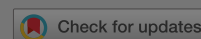
Original Articles

Clinical and economic outcomes of cesarean deliveries with skin closure through skin staples plus waterproof wound dressings versus 2-octyl cyanoacrylate plus polymer mesh tape

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Pages 1711-1720 | Received 19 Dec 2018, Accepted 16 Jul 2019, Published online: 01 Aug 2019

 Cite this article  <https://doi.org/10.1080/14767058.2019.1645830>



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Methods

Retrospective, observational study using a research database derived from administrative records routinely contributed by hundreds of hospitals in the USA. We queried the database for patients aged 18–49 years who had an in-hospital low transverse cesarean delivery between 1 January, 2012 and 31 March, 2017. Using records of medical supplies used during deliveries, we identified deliveries for which skin closure was performed by either SSWWD (SSWWD group) or 2OPMT (2OPMT group). Our primary study outcome was a composite endpoint of infection/wound complication diagnosis during the hospital stays in which the deliveries were performed. Our secondary outcomes included: length of stay (LOS) and total hospital costs for the hospital stays in which the deliveries were performed, and all-cause readmissions (30/60/90 days post discharge) to the same hospital in which the delivery was performed. We compared outcomes between propensity-score matched groups using regressions accounting for hospital-level clustering and non-Gaussian empirical outcome distributions.

Results

Each group comprised 2133 patients (4266 total patients; mean age = 30.3 years [SD = 4.6]). Compared with the SSWWD group, the 2OPMT group had statistically significant differences in infection/wound complications (OR = 1.5, 95% CI = 1.1–2.0, $P = .002$); wound complications (OR = 1.5, 95% CI = 1.1–2.0, $P = .002$), shorter LOS (mean LOS = 4.2 days vs 4.5 days, $P = .002$) and lower total hospital costs (mean cost = \$12,000 vs \$12,500, $P = .025$). Between-group differences in all-cause readmissions were statistically insignificant.

Conclusion

This study found that 2OPMT was associated with a statistically significant reduction in infection/wound complications compared with SSWWD.

Keywords

2-octyl cyanoacrylate

Applications



Acknowledgments

We acknowledge the contributions of Niels Derrek-Schmitz, Julia Ting, Geethu Roshan, and Sushama Ramiseti, employees of Johnson & Johnson at the time this study was conducted.

Disclosure statement

Stephen S. Johnston, Brian Po-Han Chen, Stephanie Hsiao Yu Lee, Michelle Costa, and Giovanni A. Tommaselli are employees of Johnson & Johnson. Akhil Nayak is an employee of Mu Sigma, which is a paid consultant to Johnson & Johnson.

Data availability statement

Although we are contractually unable to make the specific dataset on which this study was based publicly available, the overall Premier Healthcare Database is a commercial database.

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