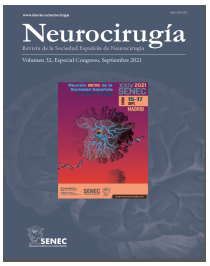
Neurocirugia. 2021;32(Espec Congr):49

Neurocirugía

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C-0377 - SYSTEMATIC REVIEW AND META-ANALYSIS OF SCREW-RELATED COMPLICATIONS AND FUSION RATES FOR ODONTOID SCREW FIXATION

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Resumen

Objectives: We aimed to evaluate the impact of surgical factors, such as the number of screws, screw entry point, intraoperative visualization technique, fixation method, and type of implants, on the rates of non-union and screw-associated complications for odontoid screw fixation (OSF).

Methods: We conducted a systematic review of the PubMed database and Crossref Metadata search following the guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Outcomes were analysed using the following indicators: screw malposition, screw cut-out, screw loosening with or without secondary loss of reduction, and screw fracture.

Results: A total of 83 articles satisfied the inclusion criteria and were used for the analysis. Estimate points for screw malposition rate, cut-out rate, screw loosening rate, screw fracture and non-union rates were 4.7%. 5.6%, 3.2%, 3.1% and 9.4%, respectively. The rate of screw cut-out was significantly higher in articles where the double screw OSF technique ($p = 0.002$) was used. There were no significant differences between single and double screw techniques in rates of other screw complications and non-union. Outcomes also did not depend on screw entry point selection, screw type or other details of the surgery. Scatterplots showed a strong trend between the number of operated patients and the rate of screw related complications.

Conclusions: Surgical experience is still the main factor that prevents screw related complications and provides good outcomes. Outcomes did not depend on the number of inserted screws, screw entry point localization, screw type, use of cannulated system or visualization method. Thus, the results of less invasive techniques of OSF are comparable with the routine techniques.

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