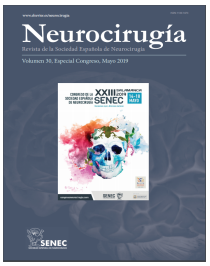
Neurocirugia. 2019;30(Espec Congr):1

Neurocirugía

https://www.revistaneurocirugia.com



C0018 - MINIMALLY INVASIVE POSTERIOR C1-C2 INSTRUMENTATION: 6 YEARS EXPERIENCE AND LONG-TERM RESULTS

*I. Lvov[1], **A. Grin[1]**, A. Kordonskiy[1], U. Khushnazarov[1], I. Grigoriev[1], A. Sytnik[2] and V. Krylov[1]*

[1]Sklifosovsky Research Institute of Emergency Care, Moscow, Russia. [2]Moscow City Hospital No 13, Moscow, Russia.

Resumen

Objectives: To analyse the long-term results of different techniques of minimally invasive posterior C1-C2 fixation (MIS group) compared with instrumentation through the posterior midline approach (PMA group).

Methods: Between 2013 and 2018, 125 patients underwent surgical treatment for traumatic injuries to the upper cervical vertebrae. Posterior C1-C2 fixation was performed in 71 patients (53 men and 22 women; age range, 17-81 years). Goel-Harms technique (GHT), transarticular C1-C2 (TAF) and monosegmental C1 fixation (MF) with a minimally invasive approach under endoscopic or microscopic visualisation were used. Intraoperative parameters were compared between MIS and PMA. Long-term clinical outcomes were assessed using ASIA scale, JOA score, Neck disability index and SF-36 score.

Results: Statistical analysis revealed that the operative time, blood loss volume, and severity of postoperative pain were lower for MIS TAF with transmuscular or fully percutaneous approach. No significantly excess radiation exposure occurred for the surgical team or the patients compared to the PMA group. For MIS GHT and MF, blood loss and operative time were lower, but the difference was not statistically significant. In all GHT and MF cases, C1 lateral mass angle and C2 pedicle screw angle were more acute than those in the PMA group. The mean follow-up period was 3 (range 1-6) years. C1-C2 fusion in MIS was achieved in 95.3% cases, which was comparable with PMA.

Conclusions: Minimally invasive C1-C2 fixation techniques using a paravertebral transmuscular approach provide an alternative to routine surgery through a posterior midline approach. Minimally invasive techniques may reduce surgery duration and blood loss volume, decrease postoperative pain severity, and do not increase radiation exposure of the surgical team and patients. Postrerolateral miniapproaches may help surgeons achieve more appropriate trajectories for screw insertion during GHT or MF, especially in patients with a thick neck.

1130-1473/© 2019 Sociedad Española de Neurocirugía. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.