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Heterotopic ossification in cervical disk surgery is still a problem. What are the key factors for a solution?

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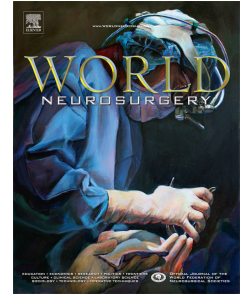
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What are the key factors for a solution?

Abstract

Background: The aim of our study was to determine the presence of heterotopic ossifications (HO) in a series of patients with cervical disk arthroplasty, treated with different type of prosthesis, as well as to analyze the most suitable systems for diagnosis.

Methods: A retrospective study of patients with cervical disk disease, treated with cervical arthroplasty between May 2005 and December 2009, was performed. Patients were divided into three groups, depending on the prosthesis implanted: (Group A: Bagera® prosthesis, Group B: ProDisc® prosthesis, and Group C: PCM® prosthesis). The presence of heterotopic ossifications was evaluated with both, simple radiology and CT.

Results: As a summary of the results on motion preservation, CT scans showed that 63% of the cervical arthroplasties in Group A presented good mobility at the first check point (December 2010), while cervical arthroplasties in Group B and Group C had 74% and 65% severe motion restrictions, respectively (Grade III or Grade IV, according to McAfee classification), . The differences between groups were statistically significant when comparing Groups A and B, and Groups A and C ($p<0.05$), but there were no differences between Groups B and C ($p>0.05$). At the second check point (December 2014), the good mobility was just preserved in the 26% of the disk replacements (all in Group A).

Conclusion: Our results showed that, although cervical disks provide optimal mid-term results, the incidence of HO seems to increase with time. Long term studies, with a larger sample size should be conducted to evaluate the appearance of HO and cervical motion after total disk replacement.

Key Words: *Cervical arthroplasty, heterotopic ossification, anterior, cervical, discectomy*

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