

Abstract #740.docx

Application of cervical arthroplasty with Bryan cervical disc: 10 years follow-up results in China

Keywords: Bryan cervical disc prosthesis; cervical disc arthroplasty; heterotopic ossification

Study Design. Retrospective study

Objective. The aims of this study were to evaluate the radiographic and clinical outcomes of Bryan cervical disc arthroplasty at 10 years follow-up.

Summary of Background Data. Cervical arthroplasty is a new technique for treating degenerative cervical disease. Previous reports have shown that cervical arthroplasty with Bryan disc gained good clinical outcomes at 4-6 year follow-up.

Methods. Dynamic X-ray examination was evaluated at baseline and at final follow-up.

Results. 27 consecutive patients have undergone cervical arthroplasty with Bryan disc. 21 patients gained follow-up and 6 patients lost follow-up. The mean follow-up period was 121 months (116–126 months). 14 patients underwent single-level arthroplasty and 6 underwent arthroplasty at two levels. One patient underwent arthroplasty at three levels. Four of the 21 patients presented with radiculopathy and 17 patients with myelopathy. The 29 levels of surgery included C3/4 (2 levels), C4/5 (3 levels), C5/6 (19 levels) and C6/7 (5 level).

The JOA score of the 17 patients with myelopathy was 13.2 at baseline and 16.2 at final follow-up. One patient received a revision surgery at the index level for recurrent radiculopathy caused by osteophyte formation and heterotopic ossification.

On X-ray examination, the range of motion at the operated level was $7.6 \pm 2.7^\circ$ at baseline and $4.0 \pm 4.4^\circ$ at final follow-up. Heterotopic ossification of Grade 3 was observed in 10 levels and Grade 4 was observed in 13 levels.

Conclusions. Arthroplasty using Bryan cervical disc prosthesis resulted in fine clinical outcomes in this study. Heterotopic ossification was common after Bryan disc arthroplasty, which decreased the ROM.