Murray and colleagues report on the treatment of 209 patients with cervical radiculopathy, comparing patients who had anterior cervical disectomy and fusion with allograft and plate fixation with those who had ProDisc-C insertion. Neurological success was 90.9% in the ProDisc-C group and 88% in the discectomy and fusion group.

One argument for the use of cervical discectomy relates to concerns about adjacent disc degeneration. The authors cite Hilibrand and colleagues, who reported that 25.6% of patients would have development of new disease requiring surgical intervention at an adjacent level within 10 years after anterior cervical discectomy and fusion; however, the prevalence of adjacent level disease was 19.2% at 10 years. Of those patients, only 27 required a second operation, giving an overall reoperation rate of 13.8%. This study did not follow patients long enough to determine the risk for adjacent disc degeneration, but it must be noted that progression of degenerative disc disease can occur in up to 50% of the population by the fifth decade.

Overall, repeat surgery was required by 9 patients in the discectomy and fusion group and by 2 patients in the ProDisc-C group. However, in the discectomy and fusion group, only 1 patient required repeat surgery due to adjacent level degenerative disease, whereas the remaining 8 patients required repeat surgery because of plate complications and pseudarthrosis. Therefore, I believe we should continue to question the technique of using allograft and plating because autograft with or without plating has historically had a much higher fusion rate.

At present, there seems to be no advantage of the ProDisc-C system over traditional anterior cervical discectomy and fusion. It should be noted that the study was specifically designed as a noninferiority study, not a superiority study. As such, the study could not prospectively prove an advantage. The study did show safety and efficacy at least equivalent to that of anterior cervical discectomy and fusion.

Commentary

Reference


Author's Response:

The conclusion in the commentary states "At present, there seems to be no advantage of the ProDisc-C system over traditional anterior cervical discectomy and fusion." It should be noted that the study was specifically designed as a noninferiority study, not a superiority study. As such, the study could not prospectively prove an advantage. The study did show safety and efficacy at least equivalent to that of anterior cervical discectomy and fusion.

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