

# A Prospective Study of Interbody Fat Graft Application with the Anterior Contralateral Cervical Microdiscectomy to Preserve Segmental Mobility

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## Introduction

Anterior cervical discectomy is usually followed by interbody fusion. The aim of our study is to evaluate the results and effectiveness of a minimal invasive technique that involves interbody fat graft placement, in patients with cervical paramedian disc herniations.

## Methods

This prospective observational study included 432 consecutive patients with cervical paramedian disc herniation who underwent a one-level or adjacent two-level anterior contralateral microdiscectomy without fusion between 2000 and 2013. Of the 432 patients included in this study, the initial 239 patients (Group 1) underwent microdiscectomy without graft placement, whereas the remaining 193 patients (Group 2) had a microdiscectomy with interbody fat graft insertion. Clinical outcomes were assessed using the Neck Disability Index (NDI) and Short Form-36 (SF-36). The mean follow up time was 5.3 years (range 2-13 years).

## Results

Spontaneous radiological fusion was noticed in 12% of Group 1 patients and none of Group 2 patients. There was no significant change in the mean overall cervical curvature (C2 -7) angles and segmental lordosis postoperatively in late follow-up findings ( $p = 0.77$ ,  $p = 0.61$  respectively). The NDI scores decreased significantly in both early and late follow-up evaluations and the SF-36 scores demonstrated significant improvement in late follow-up visits in both groups.

## Conclusions

This surgical technique provides good direct decompression and preserves mobility at the treated level, while preventing disc collapse.

## Learning Objectives

The fat graft plays an important role in achieving the desired results by preventing unintended spontaneous bony fusions. Using a contralateral approach and intervertebral fat graft insertion may prevent adjacent segment disease, complications of the instrumentation, and possible foreign body reactions.

## References

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