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Cervical percutaneous nucleotomy and decompression (PECD)

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Background and Purpose: Because of the fear of complications related to conventional treatment for cervical disc herniations, minimal invasive procedures gain significant interest in patients and spine surgeons. The purpose of this study was to evaluate the effectiveness and complication rate of an anterior percutaneous minimal invasive surgical treatment.

Study Design: A prospective clinical study

Patient Sample: 267 consecutive patients over a 4 year period with a MRI or CT proven disc-herniation, with or without foraminal stenosis, predominantly radicular symptoms, no previous neck surgery and not responding to conservative treatment. All patients had a two year follow up.

Outcome Measures: The patients had a clinical evaluation 3 months after surgery and returned at two years an extensive questionnaire including VAS Score, MacNab Score as well as subjective satisfaction.

Methods: A mechanical percutaneous foraminal decompression was performed with a two millimeter reamer and mechanical forceps removal of protruded and extruded disc material under control of a X-image intensifier.

Results: After two years 89,8% of the patients reported excellent or good results. 9% of the patients had a fair or unaltered result and 1,2% reported no improvement at all. Recording to the VAS scale the patients reported a significant improvement for arm pain (6,7pts) as well as neck pain (6,2pts). In 3 cases an early recurrent disc herniation (<3month) appeared (1,2%). 11 patients (4,3%) had a recurrence within 2 years. 3 patients(1,2%) had again a percutaneous treatment, 1 patient (0,4%) had a Mikrodisection and 7 patients had a fusion. One patient had to be hospitalized because of bleeding from the upper thyroid artery. There was one dural puncture and two cases with subcutaneous hematoma. One patient had temporary hoarseness for 2 weeks. One patient developed a stress-ulcer from previous long term steroid use. All patients recovered without residual symptoms. There were no infections.