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Microendoscopic anterior cervical foraminotomy: A preliminary series of 76 cases

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Background & Aim: Anterior cervical foraminotomy represents a relatively recent minimally invasive approach that can potentially preserve the intervertebral disc and thus the functional motion segment. This study aims to evaluate the clinical outcome of microendoscopic anterior cervical foraminotomy for patients with cervical unilateral radiculopathy due to single level soft disc herniation or hard disc osteophyte complex (DOC).

Methods: In the period between August 2009 and March 2015, 76 consecutive patients with symptomatic unilateral cervical radiculopathy were included in this prospective study. There were 40 left sided cervical radiculopathy cases and 36 right sided; of those, 42 had soft disc fragment herniation, 18 had DOC, 12 had a migrated disc fragment whether cranial or caudal, and 4 had far lateral (formainal) disc herniation. Anterior microendoscopic foraminotomy with root decompression was performed for all cases. Cervical magnetic resonance imaging (MRI), computed tomography (CT) scan and plain X-rays were performed for all patients and then repeated postoperatively. All patients were followed-up for at least a year. Clinical and functional outcomes were assessed using Visual Analogue Scale (VAS) and Odom's criteria.

Results: According to VAS score, there was an improvement in neck pain from 6.4 (range: 5-10) to 1.5 (1-5) and in arm pain from 7.2 (range: 6–10) to 1.2 (0-4) at final follow-up ($P<0.05$). Functional outcomes according to Odom's criteria were excellent in 59 (78%) cases, good in 10 (13%), fair in 6 (8%), and poor in 1 (1%) case. Success of surgery was considered to be achieved in 91% (excellent + good) of cases. Mean operating time was 81 minutes, and mean intraoperative blood loss was 21 ml. Most significant complications included a dural tear in one case, transient postoperative dysesthesia in six cases, excess bony work resulting in unintended uncinectomy in three cases and fracture of transverse process in one case, unintended near total discectomy in two cases, infectious discitis in one case, and persistent radicular pain due to incomplete osteophyte removal in one case.

Conclusions: This preliminary report suggests that microendoscopic anterior cervical foraminotomy yields overall excellent results in selected patients with unilateral cervical radiculopathy. The technique potentially can preserve the functional motion segment, thus patients typically experience immediate postoperative neck mobility and do not need to wear a cervical collar.

Biography

Mohamed S Kabil is an Assistant Professor of Department of Neurosurgery, Ain Shams University, Cairo, Egypt. He is also the Medical Director of Cairo Endospine Clinic, for Endoscopic Spine Surgery. He obtained his medical degree in 1996 from the Faculty of Medicine, Ain Shams University where he presently serves as a staff member at the Department of Neurosurgery. He also contributed to numerous publications in international medical journals, he is the First Co-Author of the international book, Endoscopic Skull Base Surgery, and gave many presentations about minimally invasive and endoscopic neurosurgery and spine surgery.

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