

CERVICAL DISCOPATHIES AND DEGENERATIVE DISEASE

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SUMMARY

92 patients who underwent operations for their cervical discopaties and degenerative disease in Bakirköy Mental and Psychiatric Hospital II. Clinic of Neurological Surgery between 1989 and 1995 are reviewed retrospectively with respect to the incidence, anatomic location, imaging techniques, age and sex distribution, type of the surgical procedure, physical findings and postoperative care. As a standart approach anterior discectomy and Smith Robinson fusion was done.

Key words : Cervical disc, Anterior discectomy, Degenerative disease.

INTRODUCTION

There are three major procedures used for the operative treatment of the cervical disc disease and cervical spinal stenosis (9). The oldest known procedure is the cervical laminectomy, first used by Sir Victor Horsley in 1901 (7,9). Anterior operative approaches were first described by Robinson and Cloward (2,5,12,14). Anterolateral approach was first used in 1968 by Verbiest (9).

MATERIAL AND METHODS

A total of 92 patients, who were operated on because of cervical disc disease and cervical spinal stenosis and who were followed - up for at least six months during the period of 1986-1995 were analysed retrospectively. The demographic traits, the symptoms and signs, the radiographic findings, the surgical procedure performed, the results at the sixth postoperative month and the late-results are discussed.

PRESENTATION OF CASES

58 patients (63,05 %) were male and 34 patients (36,95 %) were female. The youngest patient was 26 years old, while the oldest was 67 years of age. The median age was 44 years.

71 % of patients had pain intractable with medications. The other symptoms and signs included paresis, paresthesia, atrophy, disturbance of gait and incontinence. 81% of patients had loss of normal daily physical activity.

In 97% of patients the neurological examination revealed paresis. This was followed by sensory disturbances, reflex changes, gait disturbances and incontinence in order of their frequency (Table I).

All patients had cervical plain radiographs. 42 patients (45,65%) had cervical spondylotic changes and/or loss of physiologic cervical lordosis. Myelography was performed in 40 patients: In 37 patients filling defects, total or partial block and/or narrowing was observed. In 3 patients the cervical myelography revealed no pathologic findings. Computed tomography of the cervical spine was used in 46 patients. The common findings were disc protrusions, ligamental hypertrophies and calcifications, narrowing and other degenerative changes.

Cervical MRI was the chosen procedure in 43 patients. Electromyography (EMG) was performed in 25 patients in order to confirm the anatomical localization of the lesion. 24 of these patients had an abnormal EMG.

The diagnoses and surgical procedures are summarized in Table II .

For anterior cervical discectomy operations were performed from the right side of the neck. Microsurgical technique was used in all patients. Autologous bone graft from the right iliac crest was preferred for fusion. Laminectomies were done in the sitting position.

The results were categorized in five groups (Table III). The results of the single level and multiple level discectomies are compared and no statistical significance was present (Table IV).

All patients had cervical X-rays on the first postoperative day and at the end of the first and third postoperative months. Philadelphia collar was used in all patients for a period of 6-8 weeks, postoperatively.

2 patients died in the early postoperative period. One died because of pulmonary embolism and the other died of postoperative bleeding with the resultant quadriplegia and dispnea. 3 patients developed transient disphagia, 2 patients had transient disphonia and 1 patient had wound infection on the iliac graft site.

DISCUSSION

Before the introduction of CT and MRI, myelography was the diagnostic aid chosen routinely. The diagnostic value of the myelography was 92.5 % in our series. Cervical CT scan with or without intrathecal contrast medium was performed in 44 patients. CT scan was combined with other imaging procedures (MRI or myelography) in 38 patients.

MRI replaced all the other radiologic investigations in the last four years, as also emphasized in the recent literature (3,4,11).

Anterior approach has several advantages (8,13,15,16):

- 1) Discectomy can be performed without spinal cord retraction
- 2) Spinal stabilization can be preserved more easily

- 3) **Early mobilization in the postoperative period**
- 4) **No risks of the sitting position**
- 5) **The operation directly decompresses the underlying pathology**

Although discectomy without fusion is advocated by several authors (10), this technique is used only in 4 of our patients.

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Table I: The neurological findings.

Neurological finding	Percentage of cases
Paresis	97
Paresthesia	65
Pathological reflex	50
Reflex loss	20
Atrophy	11
Urinary incontinence	8
Stool incontinence	2

Table II

Surgical procedure	Diagnosis	Number of cases
Anterior discectomy and S.Robinson fusion	C3-4 HNP	2
	C4-5 HNP	2
	C5-6 HNP	10
	C6-7 HNP	10
	Multiple level HNP	19
Anterior discectomy and Cloward fusion	C5-6 HNP	11
	C6-7 HNP	4
	Multiple level HNP	5
Anterior discectomy Simple	C5-6 HNP	3
	C6-7 HNP	1
Foraminotomy	Narrowing	4
Laminectomy	Spinal stenosis and Cervical spondilosis	17
Anterior discectomy and Laminectomy	Cervical HNP and narrowing	4

Table III

1) Excellent	: No pain, no neurological deficit
2) Good	: Mild pain, no neurological deficit
3) Moderate	: Mild to moderate pain and neurological deficit
4) Poor	: Severe neurological deficit
5) Exitus	

Table IV

	Excel	Good	Mode	Poor	Ex	Total
Anterior discectomy Simple	10	22	8	1	-	41
Multiple level anterior discectomy	3	14	9	-	-	26