A study of 22 Cases of Dorsal Inter-Vertebral Disc Prolapse treated by Thoracic Laminectomy

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Summary

Background: dorsal spine intervertebral disc prolapse (IVDP) not a very common entity compared with cervical & lumbar region usually treated surgically.

Patients & method: 22 patients studied in the specialized surgical hospital neurosurgical department from Jan 2002 till Jan. 2006. the study included age, gender, cases. clinical features, diagnoses & surgical management.

Results: 22 patients were studied 76% of the patients are at the age of 30-60 with slight male predominance, all diagnosed by MRI & or CT scan, all managed surgically by laminectomy the results are compared with other studies.

Conclusion: posterior thoracic laminectomy at the dorsal region is a safe, simple procedure with good results if done early & meticolous.

Keywords: Intervertebral disc prolapse, dorsal spine, Laminectomy.

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Introduction

(IVDP) is not very common in the dorsal spine compared with cervical & lumbr or lumbo-sacral (IVDP), it's commoner in the lower dorsal vertebrae compared to the mid dorsal vertebrae & rare in the upper dorsal vertebrae (1)(2) the incidence is around 1:1000000 population(3)

The most common early presentation is back pain at the site of prolapse with radicular radiation, then the patient may suffer from long track signs of spinal cord compression as paraparesis of the lower limbs to paraplegia to incontinence or lose of sensation of the lower limbs superficial or deep sensation.(4)(5)

Diagnosis usually done by MRI study or some times by CT scan if MR contraindicated, and very occasionally by mylography. (6)

The surgical management is usually by either: Thoracic Laminectomy, lateral approaches & Trans thoracic approach (7)

Patients & method

22 patients selected in this study were taken from January 2002 till January 2006 in the surgical unit of the specialized surgical hospital all complaining from dorsal spine (IVDP), all patients studied by age, gender, cause, clinical features Radiological studies, all managed by post. thoracic laminectomy & out come studied & compared with other studied & conclusion is reached.

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Table (1): clinical features

Clinical feature	No.	%
Pain (local)	20	91%
Paraparesis	18	81.8%
Paraplegia	1	4.5%
Urinary incontenance	6	27.2%
Faecal incontenance	2	9%
Paraesthesia	4	18%
Lower limb atrophy	7	32%
Pain in the lower limbs	3	13.6%
Impotance	6(♂)	50%
The total percentage is higher than 100% as the patient may have more than one symptoms or sign.		

Table (2): The level affected

Level	No.	%
D_3D_4	1	4.5%
D_7D_8	1	4.5%
D_8D_9	2	9%
D_9D_{10}	4	18%
$D_{10}D_{11}$	5	22.7%
$D_{11}D_{12}$	9	41%

Table (3): Type of surgery

Type of surgery	No.	%
Post decompressive laminectomy	22	100%

Table (4): outcome of surgery

Symptom sign	Improve	%	The same	%	Deteri-orate	%
Pain	18	90	2	10		
Paraparesis	17	94.4			1	5.5
Paraplegia			1	100		
Urinary incontenance	5	83.3	1	16.6		
Faecal incontenance	2	100				
Paraesthesia	3	75	1	25		
Lower limb atrophy	3	43	4	57		
Pain in the lower limbs	2	66.6	1	33.3		
Impotance	4	66.6	2	33.3		

Results & discussion:

22 patients studied in our study 76% of the patients were in the age between 30-60 years which goes with most studies in this series (2,3).

91% of the patients had local pain & 81% had paraperesis & 27.2% had urinary incontenance. these results are so close to the study by key CA at 1992(4) and Tovi D- et al at 2001 (5).

4.5% (1 patient) only presented by complete paraplegia mainly due to patient neglect. impotance was present in 50 % of the male patients.

32% had atrophy of the muscles of the lower limbs which is higher than key CA (4) & Tovi D et al (5) which is explained by the delay of the presentation of the patients.

27% of the patients delayed presentation 1-6 months & 9% (2 patients) delayed more than 1 year.

18 patients were diagnosed by MRI, & 1 patient by CT & MRI, 2 patients by CT only due to contraindication of MR, due to intra medullary nail of femur of 1 patient and clauster phobia for the other, 1 patient diagnosed by mylography due to technical problem of MR (over weigh).

The level of the disc prolapse 41% was in $D_{11}D_{12}$, & 22% $D_{10}D_{11}$ & 18% D_9D_{10} and only 1 patient in D_3D_4. this goes with blumenkopf B study at 1998 [6]. More than 20% of the patient show some delay of the operation mainly for patient hesitance which could affect the final out come of the patient.

For all the patients we did midline post, decompression laminectomy with out discectomy the out come was studied in details for the symptoms and signs 90% had improvement of their pain, 94% improvement of parapresis 83% improvement of urinary sphincter, 100% improvement of faecal control but only 43% improve the atrophy of the lower limbs ⅔ improvement of parasthesia and pain of the lower limbs.

These results are even better than the results of Carson J, et al 1971 using the same approach and are so close to the result of Bohlman HH et al., 2001, using the lateral thoracic approach (10) and close to the results of Otani K et al 2002 using the Tran thoracic approach (11).

We think that the result could be little bit better if the surgery is done earlier; one of our patients had paraphgia following surgery as he was paraperetic before surgery this could not explain even after full radiological assessment.

Conclussion:

Posterior thoracic laminectomy for (IVDP) of the dorsal region is a safe simple procedure with good result if done early and meticulously.

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