



## Study of myelographic evaluations in lumbar lesions patients

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**ABSTRACT** **Background :** The syndrome of low backache with or without neurological deficit is a common diagnostic problem, an orthopaedic surgeon faces in daily practice.. Such patients attend the OPD with a variety of presentations and localization of lesion is too difficult at times. Such patients are subjected to lumbar myelography. If correct diagnosis is arrived at in proper time and with accuracy, the management of the case can be effectively achieved. Here comes the role of myelography. With this view the present study was undertaken to with the aims to evaluate the role of myelography in diagnosing the lumbar disc lesions.

**Materials and Methods:** Study included 80 patients who clinically presented with low backache, paraplegia, with or without bladder involvement and who were clinically considered to have compressive myelopathy. All the above patients were subjected to conventional myelographic evaluation. The data collection was done and analysed using appropriate statistical method.

**Results :** when various lumbar lesions were considered, the males were the predominant victims. Like in degenerative disc lesions, out of 41 patients, 31 were males. In canal stenosis out of 16, 11 were males. In fact, it is observed by many that sex does not offer bar for lumbar lesions. Out of 80 patients examined, the predominant class presented between the age group of 31-40 years. Many of the studies do support it. In addition, it is observed in our present study and also observed by many, that the victims of the disc lesions range between 31-50 years of age.

**Conclusion :** The commonest lesion involving the lumbar spine was degenerative disc lesion. Maximum number of patients presenting with lumbar lesion were from 4th decade and next common in 6th decade of life .

**KEYWORDS :****Introduction**

The syndrome of low backache with or without neurological deficit is a common diagnostic problem, an orthopaedic surgeon faces in daily practice. Such patients initially are treated conservatively with analgesics, short wave diathermy, tractions and exercises. Such patients attend the OPD with a variety of presentations and localization of lesion is too difficult at times. Such patients are subjected to lumbar myelography.<sup>1,2</sup>

The compressive lumbar myelopathies are resultant of multiple causes ranging from osteophytic growths to metastatic lesions. Initial anatomical dimensions of canal also play a great role in it.

Roomy lumbar canal may keep the lesion hidden for a long time, whereas, a congenital narrow canal may bring the patient of compressive myelopathy in a very early stage.

The compression of the cord or nerve roots in lumbar region may present with simple pain or may result into an irreversible damage. It is therefore very important to promptly detect and locate the cause of compression of the cord or nerve roots in lumbar region. Early detection helps in prompt surgical management thus preventing the agony and irreversible damage.<sup>3,4</sup>

By weighing the advantages and disadvantages, it will be possible for one to plan the investigations in the victims of low backache which will prove to be specific and cost effective instead of subjecting the victims to multiple investigations.<sup>5,6</sup> Big classes of patients do suffer from low back-ache and may be the victims of cord or nerve root compressions resulting in low backache, with or without neurological involvement. If correct diagnosis is arrived at in proper time and with accuracy, the management of the case can be effectively achieved. Here comes the role of myelography. With this view the present study was undertaken with the aims to evaluate the role of myelography in diagnosing the lumbar disc lesions.

**Materials and Methods**

The present study was carried out during February 1998 to February 2001 in the Department of Radio-Diagnosis, Government Medical College & Hospital, Aurangabad. The Study included 80 patients who clinically presented with low backache, paraplegia, with or without bladder involvement and who were clinically considered to have compressive myelopathy. All the above patients were subjected to conventional myelographic evaluation.

Detail clinical evaluation by noting the presentation of the patient's clinical examination, past history, and family history. CNS evaluation was performed in detail by evaluating sensory and motor systems. Bladder and/or bowel involvement was noted. Plain radiography of lumbar vertebral column was studied by carrying out antero-posterior and lateral views and if needed oblique views of lumbar spine were taken. In some cases the radiographs available with the patients were reviewed to avoid extra-radiation to the patient. Radiography was carried out on Siemen's 500mA X-ray unit on 12"x15" or 10"x12" size x-ray films.<sup>7,8</sup> Wherein KV ranging from 70 to 90 and mAs ranging from 80-125 depending on the thickness of the part of the patient to be examined, were applied. Bucky radiography with the tube distance of 100cms were used as the fixed parameters. Myelographic evaluation was done. The referred patients were advised the preparation for the abdomen. On prior day, at the time of giving the appointment for myelography, patients were also evaluated by Ophthalmologist for signs of raised intra-cranial tension.

On the day of examination, valid consent of the patient was taken. Blood pressure, pulse, status of hydration and sensitivity to the contrast were noted. Myelography was done under all aseptic precautions by doing lumbar puncture at L 2-3/L3-4 level and using 8-10ml of inj. Omnipaque (300mg Iodine/ml). After the myelographic procedure was over the patient was hospitalized under the clinician's care for post-myelography observation. The data collection was done and analysed using appropriate statistical method.

**OBSERVATIONS****Table no.1**

**Table showing various clinical presentation of patients of the lumbar lesions**

Sr. no.	Presentation	Male	Female	Total
1.	Radiculopathy	49	15	64
2.	Backache	41	18	59
3.	Inability to walk	4	2	6
4.	Paraplegia with bowel bladder involvement	2	1	3
5.	Difficulty in forward bending	2	-	2
6.	Paraparesis	1	-	1
7.	Non-healing wound over great toe	1	-	1

**Table No.2 Table showing various lumbar lesions revealed on myelographic evaluations**

Sr. no.	Lumbar lesions	Male	Female	Total
1.	Degenerative disc lesions	31	10	41
2.	Lumbar canal stenosis	11	5	16
3.	Tuberculous lesions	5	-	5
4.	Listhesis and Retrolisthesis	3	2	5
5.	Primary neoplasms (spine and cord)	3	1	4
6.	Traumatic lesions	2	2	4
7.	Secondaries	2	2	4
8.	Congenital anomalies	1	0	1

**Table no.3 Table showing no. of patients examined with age and sex distribution**

Age (years)	Male	Female	Total
< 10	1	0	1
11 – 20	3	1	4
21 -30	8	2	10
31 – 40	17	6	23
41 – 50	11	9	20
51 – 60	14	4	18
61 – 70	3	0	3
71 – 80	0	0	0
> 80	1	0	1
Total	58	22	80

Total percentage of males examined = 72.5

Total percentage of females examined = 27.5

### Discussion :

Radiological evaluation of lumbar spine, may be by conventional plain radiography, conventional myelography of the spine has become a necessity, as a big number of patients do suffer from lumbar lesions. At occasions accurate evaluation and prompt management reverses the condition back to the normality instead of progression in to an irreversible damage. Multiple modalities offer the diagnostic tools, but one has to decide as to which method is to be adopted to. Hence a comparative study of conventional myelography and CT myelography was undertaken. The total number of the patients evaluated by CT and conventional myelography were 80.

All the above patients were clinically evaluated by the clinicians and were referred to the Department for CT or conventional myelography. All the above patients were examined by carrying out conventional plain radiography of lumbo-sacral spine and after introduction of contrast media in to the thecal space were subjected to conventional myelographic evaluation by taking antero-posterior, lateral and oblique views of lumbar spine and then were subjected to the CT evaluation.

The patients who suffered from the lumbar lesions had clinically radiculopathy (64), backache (39), inability to walk (6), paraplegia with bowel and bladder involvement (3), difficulty in bending (2), paraparesis (1), and nonhealing wound over foot (1). The largest group presented was with radiculopathy and backache. The same was observed in the study carried 45 out by ZarkarShoukat (1993).<sup>9</sup>

Various lesions, the patients had were disc lesions (41), lumbar canal stenosis (16), granulomatous lesion i.e. tuberculous (5), listhesis or retrolisthesis (5), primary neoplasm of spine and/or cord, nerve root (4), traumatic lesions (4), secondaries (4) and congenital malformation (1). Of the lumbar lesions, the commonest found was degenerative disc lesions and second commonest was canal stenosis.

As a whole, in various clinical presentations males were larger in number. Similarly when various lumbar lesions were considered, the males were the predominant victims. Like in degenerative disc lesions, out of 41 patients, 31 were males. In canal stenosis out of 16, 11 were males. In fact, it is observed by many that sex does not offer bar for lumbar lesions. Out of 80 patients examined, the predominant class presented between the age group of 31-40 years. Many of the studies do support it. In addition, it is observed in our present study and also observed by many, that the victims of the disc lesions range between 31-50 years of age.<sup>10,11,12</sup>

The present study was undertaken to evaluate the efficacy, accuracy and specificity in diagnosing the lumbar spinal lesions by conventional myelography. Total 80 patients were examined by conventional

myelography. The commonest clinical presentation was radiculopathy. As a whole male and female were 58 & 22 respectively. The commonest lesion involving the lumbar spine was degenerative disc lesion. Maximum number of patients presenting with lumbar lesion were from 4th decade (31-40 years) and next common in 6th decade (51-60 years).

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