Cauda Equina Syndrome for lumbar disc disease--- timing of surgery has no influence on the outcome

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Introduction

Cauda equina syndrome (CES) is a complex of clinical symptoms/signs secondary to prolapsed intervertebral disc presenting with varying combinations of lower extremity weakness, sensory loss and/or saddle area, pain in the low back and/or lower extremities, and visceral impairment of bladder, rectal and/or sexual function and in the literature the term “cauda equine syndrome” means a syndrome that includes impairment of urinary function and saddle sensory deficits.

Methods

We have taken all the discogenic CES cases that presented to the Department of Neurosurgery at Gauhati Medical College & Hospital, India from Jan 2010 to Dec 2011. All the patients were subjected to thorough evaluation clinical/radiological and all underwent surgery followed by analysis of the surgical outcome.In the current study we use 3 categories of urinary outcome: Normal, Fair, and Poor, with Normal including the 2 groups that Gleave and Macfarlane called “Excellent” and “Good.”

This system of grading urinary outcome depends upon the patient's subjective perception of bladder function and does not necessarily express adequately the true neurological status of the bladder, since many patients with bladder dysfunction may void by using abdominal straining, unaware or only marginally aware that they are doing so.(1,2,3) However, since few studies report the results of postoperative urodynamic evaluation, we chose this system for the purposes of this analysis.

For a diagnosis of CES we have concluded that one or more of the following must be present: (1) bladder and/or bowel dysfunction, (2) reduced sensation in the saddle area, or (3) sexual dysfunction, with possible neurologic deficit in the lower limb (motor/sensory loss, reflex change).

Results

Of the total of 30 patients which we have evaluated for six months post -op, male outnumber female (2.75:1), maximum incidence being 4th decade. Clinically patients presented with history of recent onset(1 nos) and an earlier less well defined history of pre existing symptoms(28 nos). Low back ache(29pts.) being the most common symptoms with bilateral radiculopathy in 12 patients .urinary straining (25 pts.)/retention(5 pts) was the most common autonomic disturbance and constipation being present in 15 pts. followed by stool incontinence in 5 pts. Urinary function outcome was poor in 2 pts, fair 10 pts, normal 18 pts. 2 patients still has incontinence of stool. However those who evacuated bowel were more or less dependent on laxatives. Out of the total of 30 patients , anal tone was diminished in 11 patients.

Only 6 of the total 30 patients gave history of sexual dysfunction(Erectile dysfunction 4 pts,impotence 2pts)

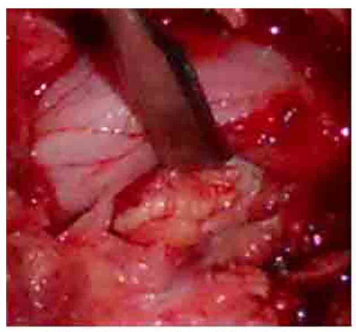
Time interval to surgery after autonomic involvement range from 5 days-240 days. The most common level was L4-5 followed by L5-S1, laminectomy single level done in 24 patients followed by discectomy,two level in 5 patients and fenestration in 1 patients.

Conclusions

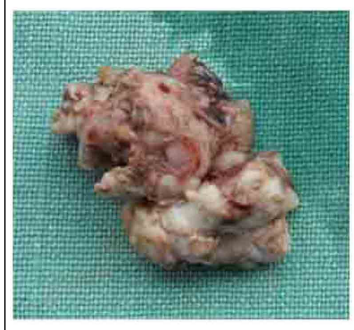
Our study of 30 cases , though small in number was done with an attempt to assess the characteristic symptoms and surgical outcome of CES .We have found that patients present with diverse symptoms not typical to definition of textbook and that the duration of autonomic disturbances till surgery has no implication in the outcome in our study. In long follow up sensory/motor symptoms do recover as also bladder function along with bowel function.

Surgical intervention should be done in CES irrespective of the duration and severity of clinical symptom and autonomic symptoms. Timing of surgical intervention from autonomic involvement does not affect outcome. It is the severity of deficit which is the major determinant of outcome.

MRI L-S SPINE



EXTRUDED DISC - INTRA OP



SPECIMEN- EXCISED DISC 1

SPECIMEN EXCISED DISC 2

Learning Objectives

It is the severity and not the timing which determine the outcome.

References

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