

Pattern of Various Neurosurgical Diseases and Their Surgical Management in a District Headquarter Hospital, A Study of 80 Cases

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ABSTRACT:

Objectives: The objective of this study was to find out the pattern of Neurosurgical problems in a D.H.Q Hospital Kohat Road, Peshawar, which is a secondary care centre.

Study Design: Retrospective study.

Materials and Methods: This study was conducted in the D.H.Q Hospital Kohat Road, Peshawar from 15 May, 2008 to 15 Oct, 2008 with 1-3 months of follow-up. In these five months total 52 OPD days were attended in which total 1400 patients were treated. Out of these patients 80 patients were admitted for different Neurosurgical procedures. All patients of different Neurosurgical problems seen in OPD, of all ages and both gender were included in the study and the patients of trauma and other Neurosurgical problems who were referred to the tertiary care hospital were excluded from the study.

Results: 80 patients including 50 male and 30 female were operated upon for different Neurosurgical diseases. Out of 80 admitted patients for neurosurgical procedures 39 (48.7%) were of lumbar disc herniation, 10 (12.5%) had lumbar spinal stenosis, 3 (3.75%) patients had scalp lesions, 3 (3.75%) patients had myelomeningocele, 2 (2.5%) were operated for sciatic nerve repair, 07 (8.75%) were operated for carpal tunnel syndrome CTS, 02 (2.5%) were operated for tethered cord syndrome (TCS), 02 (2.5%) were operated for infra-orbital nerve avulsion, 06 (7.5%) patients were shunted for hydrocephalus, 1 (1.25%) had ulner-nerve release and 01 (1.25%) patient was operated for craniosynostosis. All patients showed clinical improvement to various extents. Overall complication rate for all surgical procedures was 13.7%.

Conclusion: Most of the Neurosurgical procedures except brain tumors don't need any sophisticated facilities, rather it is the will of neurosurgeon which counts. Most of spinal surgery, shunt for hydrocephalus, scalp lesions, craniosynostosis can be operated in the record care centre and depending upon the skill of the neurosurgeons.

Key words: Lumbar disc herniation, lumbar spinal stenosis, laminectomy, hydrocephalus, carpal tunnel syndrome.

INTRODUCTION

Until 15 May, 2008 no neurosurgical facilities were provided by the D.H.Q Hospital Kohat Road, Peshawar. 07 bedded Neurosurgical ward was established on 15 May, 2008 after appointment of a District Neurosurgeon. No CT Scan, MRI, ICU or specialized anaesthesia facilities were available in the D.H.Q hospital however various neurosurgical procedures were performed with satisfying results.

MATERIALS AND METHODS

Out of 1500 OPD patients seen in 52 OPD days in 05 months, 80 patients of different Neurosurgical problems were admitted for different procedures. This study was conducted from 15 May, 2008 to 15 Oct, 2008 with different time of follow-up for different surgical procedures. Out of these 80 patients 50 were male and 30 female with male to female ratio 1.6:1 (Table 1). The different neurosurgical procedures for

which the patients were operated included lumbar disc herniation, lumbar spinal stenosis, carpal tunnel syndrome, congenital lesions (myelomeningoceles, hydrocephalus, tethered cord syndrome, cranosynostosis), scalp lesions, spinal tumors, trigeminal neurologia, entrapment neuropathies, sciatic nerve injuries, dislodged and broken fixation implant.

Table I: Gender Distribution.

Gender	Number of patients	Percentage
Male	50	62.5
Female	30	37.5

Table 2: Presentation of patients with difference Neurosurgical problems.

Disease	No. of patients	Percentage
Lumbar Disc Herniation	39	48.75
Lumbar Spinal Stenosis	10	12.5
Carper Tunnel Syndrome	07	8.75
Hydrocephalus	06	7.5
Myelomeningocele	03	3.75
Spinal Card Lesions	03	3.75
Scalp Lesions	03	3.75
Tetherd Cord Syndrome	02	2.5
Sciatic Nerve Injury	02	2.5
Trigeminal Neuralgia	02	2.5
Ulner-Nerve Entrapment	01	1.25
Caniosynostosis	01	1.25
Dislodged Implant	01	1.25

Out of 80 admitted patients for neurosurgical procedures 39 (48.7%) were of lumbar disc herniation, 10 (12.5%) had lumbar spinal stenosis, 3 (3.75%) patients had scalp lesions, 3 (3.75%) patients had myelomeningocele, 2 (2.5%) were operated for sciatic nerve repair, 07 (8.75%) were operated for carpal tunnel syndrome CTS, 02 (2.5%) were operated for tethered cord syndrome (TCS), 02 (2.5%) were operated for infra-orbital nerve avulsion, 06 (7.5%) patients were shunted for hydrocephalus, 1 (1.25%) had ulner-nerve release and 01 (1.25%) patient was operated for cranosynostosis (Table 2). Ages ranged from 2 months 65 years with a mean age of 32.5 years.

These patients were thoroughly examined with documentation of neurological status. All necessary investigations in the form of plan X-rays, CT Scans, MRI, nerve conduction studies were performed before their admission. After admission all necessary investigations for general anaesthesia were performed. After explanation of prognosis and consent all the admitted patients were operated. They were admitted for different periods according to their surgical procedures and after discharge they were followed up for different periods ranging from 1–3 months depending upon on the pattern of different diseases.

RESULTS

Out of 39 operated patients for lumbar disc herniation 35 (90%) cases had good clinical outcome with improvement in radicular pain. Overall complication rate was 13.7% for all operated procedures. 1 (1.2%) patients out of 39 had partial foot drop which improved after follow-up of 2 month, 2 (2.5%) had superficial wound infection who were treated with antibiotics and regular dressing. 02 (2.5%) out of 39 patients had discitis who were treated conservatively with rest and antibiotics as shown in Table 3. Out of 10 patients operated for lumbar spinal stenosis, 02 (20%) had dural tear while 02 (20%) had postoperative urinary retention which was relieved after 3 – 4 days of catheterization. Out of 3 operated patients for myelomeningocele 1 (1.2%) had CSF leak which was treated conservatively. 2 patients operated for tithered cord syndrome (TCS) showed no improvement in their sphincters functions. 1 (1.2%) patient operated for removal of implant had superficial wound infection which was healed after 2 weeks. Out of 6 patients operated for hydrocephalus 1 (1.2%) patient had blocked shunt which was revised after 1 month. Two patients operated for sciatic nerve repair showed no clinical improvement in power postoperatively but the pain relief was achieved (Table 4).

DISCUSSION

As the job of labour is more common in our society so are the spinal problems associated with the heavy jobs. Out of 80 patients 39 patients were operated for lumbar disc herniation and 10 (12.5%) for lumbar spinal stenosis. Out of 39 (48.75%) operated cases 25 were male and 14 were female with male to female ratio 1.78:1. Age ranged from 25 to 60 years with mean age 42.5 years. While in study conducted by Jonson B et al

the male to female ratio was 1.45:1 with mean 42 years (21 – 81 years)¹. We had discitis in 2 (5.12%) patients while in study conducted by Siddique et al 6.2% patients had discitis². We had 2 (2.5%) patients with superficial wound infection while in study conducted by B.M. Jolles et al 01% patients had superficial wound infection³.

COMPLICATIONS

Table 4: Overall Complications.

Complication	Number of patients	Percentage
Discitis	2	2.5
Superficial wound infection	2	2.5
Dural tear	2	2.5
Urinary retention	2	2.5
Blocked shunt	1	1.25
CSF leak	1	1.25
Partial foot drop	1	1.25

Out of 10 patients operated for lumbar spinal stenosis 2 (20%) had dural tear. Both were treated conservatively. In study conducted by Lutchman et al 8% patients had dural tear⁴. Probably due to less number of cases our percentage of dural tear is greater which can be reduced by increasing the number of cases in our study. 2 (20%) out of 10 patients had postoperative urinary retention. In study conducted by C.J.M Getty et al 19.3% of patients had urinary retention⁵.

Out of 6 shunted patients for hydrocephalus 1 (16.6%) was found blocked after follow-up of 1-3 month. Shunt blockage was noted in 16% of patients in different series conducted by Jette J et al and Robertson JA et al⁶⁻⁷.

Out of 7 patients operated for carpal tunnel syndrome 1 was male and 6 female thus the male to female ratio was 1:6, similar higher predisposition of the condition for females was observed by Akelmane et al and Lee et al.⁸⁻⁹ (85.7%) patients improved clinically. Similar good results of surgical release of the carpal tunnel syndrome CTS was reported by Karaeminogullari et al Scholten et al.¹⁰⁻¹¹

Procedure of choice for trigeminal neuralgia is MVD but due to lack of facilities and poor economic status of the patients in 2 patients infra-orbital avulsion was performed of which both the patients showed

clinically improvement in pain. Although they were on carbamazepine postoperatively.

3 patients were operated for scalp lesions. Out of these 3 patients 2 turned out squamous-cell carcinoma and 1 had infected dermoid cyst.

3 patients were operated for spinal lesions. Of these 3 patients 2 were extradural lesions and carries spine 1 case each lymphoma and the histopathology of one case was meningioma.

One patient operated for spinal fixation elsewhere presented with broken transpedicular screw. In this patient transpedicular screws were removed.

In 1 patient ulner-nerve release was performed in Guyon canal.

Two patients had sciatic nerve repair. Although there was no clinical improvement as the follow-up was short but in both patients the pain was received.

CONCLUSION

For neurosurgical procedures it is important to have good neurosurgical facilities in operation theatre but all neurosurgical procedures don't need sophisticated setup. Restricted facilities are no bar to perform within one's limits, it is the surgeon will and skill which counts. A journey of 100 miles begins with one step.

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