DOI: https://doi.org/10.53350/pjmhs2023172450

ORIGINAL ARTICLE

Clinical Features and Surgical Outcomes of Spinal Tumors: A Multicenter Study

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ABSTRACT

Objective: to evaluate the appearance, improvement, and complication rates of surgically removed spinal tumors.

Material and Methods: After obtaining the ethics committee's approval, this multicenter study continued from Jan 2020 to Jan 2021 at the Department of Neurosurgery mmc Mardan. This research covered all instances of spinal tumors that were surgically removed during this time. Recurrent spinal tumors and metastatic spinal cancers admitted for conservative or palliative care were excluded from this investigation. A neurological state comparison at six months with preoperative status is recorded. Version 26 of Spss software is used to evaluate data.

Results: 27 female and 20 male patients totaling 47, were operated on during this time. In our research, intradural extra medullary lesions, which affected 18 patients (38.29%) the most, were followed by epidural lesions, which involved 13 patients (27.65%). Nine patients (19.14%) had an intradural intramedullary lesion. Pain in the form of backache, radiculopathy, and radiculomyelopathy (30 patients, 63.8%) is the most typical manifestation of these malignancies. The second joint Presentation is a motor impairment shown as a weakness (27 cases, 58.51%). CSF leak occurs in 05 individuals, with the most common postoperative consequence (7.44%). 75.5% of patients get good from a decent symptom result (36). There is evidence of neurological dysfunction in 3 cases (5.31%).

Conclusion: The preferred course of therapy for spinal tumors is microsurgical excision with acceptable morbidity and successful surgical findings.

Keywords: Spinal tumors, Microsurgical treatment,

INTRODUCTION

spinal tumors describes a diverse range of neoplasms that develop within the vertebral column and its contents[1]. These tumors may be categorized as intramedullary or intradural-extra medullary; extradural tumors are the focus of this follow-up investigation. Spinal tumors are a significant source of morbidity and death, although uncommon[2]. Meningioma's and neurofibromas, which cause compression of the neural components and often present as pain or neurological deficit, are the most prevalent intradural-extra medullary tumours[3]. Aneurysmal bone cysts and metastatic tumors often manifest with discomfort and are the most pervasive extradural tumours[4]. This study aims to identify spinal tumors' clinical spectrum and surgical results at our facility[5].

MATERIAL AND METHODS

This multicenter study will continue from Jan 2020 to Jan 2021 at the Department of Neurosurgery mmc Mardan. After taking consent from the ethical committee. All cases of Spinal tumors operated on during this period were included in this study. Metastatic spinal tumors were admitted for conservative or palliative treatment, and recurrent spinal tumors were excluded from this study. Demographic data, clinic pathological Presentation, and surgical outcome were documented. Six-month follow-up with a comparison to prop neurological status is noted. Data is analyzed using Spss software version 26.

Statically analysis: The data was collected and analyzed using IBM SPSS version 26. Descriptive statistics were used to present demographic and clinical information of the patients, while Chi-square and Fisher's exact tests were used to compare categorical variables. The Mann-Whitney U test was used to compare continuous variables. A p-value of less than 0.05 was considered statistically significant.

RESULTS

27 female and 20 male patients totaling 47, were operated on during this time. In our research, intradural extra medullary lesions, which affected 18 patients (38.29%) the most, were followed by epidural lesions, which involved 13 patients (27.65%). Nine patients (19.14%) had an intradural intramedullary lesion. Pain in the form of backache, radiculopathy, and radiculomyelopathy (30 patients, 63.8%) is the most typical manifestation of these malignancies. The second joint Presentation is a motor impairment shown as a weakness (27 cases, 58.51%). CSF leak occurs in 05 individuals, with the most common postoperative consequence (7.44%). 75.5% of patients get good from a decent symptom result (36). There is evidence of neurological dysfunction in 3 cases (5.31%). The result shows in tables 1 to 5 and figures 01to 04.

Figure 1: During surgery, a case of a hydrated cyst in the Dorsal spine. Intradural Extra Medullary.

A B

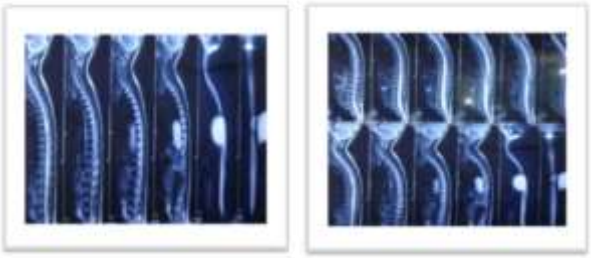

Figure 2: A spine MRI (A, B) shows Hydatid Cyst in the Dorsal Spine with thoracic cavity extension.

A B

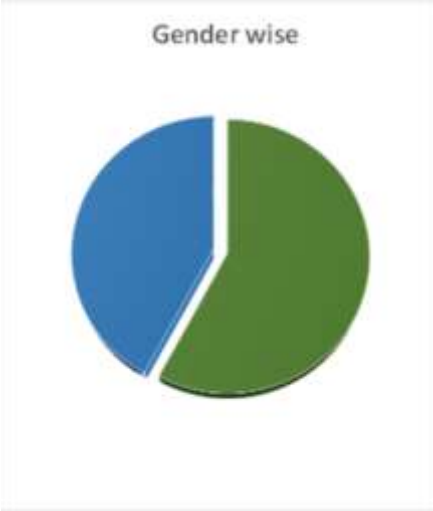

Figure 3: Gander Wise Demographic=(N-47)

Table 1: Gender distribution of patients.=(N-47)

Male	27	(58.4%)
Female	20	(42.6%)
Total	47	(100%)

Table 2: Types of spinal tumors in the study=(N-27)

Types of tumors	Number of patients	
Intradural extra medullary lesions	18	(38.29%),
Epidural lesions	15	(31.65%)
Intradural Intramedullary lesions	14	(29.14%)
Total	47	(100%)

Table 3: Clinical Presentation of spinal tumors=(N-47)

Clinical Presentation	Number of Patients	
Backache	30	(60)63.8%
Motor Deficit	27	(54)58.51%

Table 4: Postoperative Complications=(N-47)

Complications	Number of patients	Percentage %
CSF	05	(10) 7.44%
Neurological Deficit	03	(5) 5.5%

Table 5: Outcome of study =(N-47)

Outcomes	Number Of Patients	Percentage %
Excellent Reasonable	18	75.5%
Neurological Deficit	01	5.5%
No Changes In Patients	05	19%

DISCUSSION

The findings of this study indicate that spinal tumors can be successfully treated with microsurgical techniques[4,5]. This study's most common types of tumors were intradural extra medullary lesions, followed by epidural and intradural intramedullary lesions[6]. The most common clinical symptom was pain, followed by motor impairment. The most common postoperative complication was CSF leak, followed by neurological dysfunction[7]. Most patients (75.5%) had a good outcome in improving symptoms. This study has some limitations, mainly due to its retrospective nature. The sample size was relatively small, and the follow-up period was short.

Furthermore, the study did not include patients admitted for conservative or palliative care[8]. Despite these limitations, this study provides important insights into the clinical characteristics and outcomes of spinal tumors treated with microsurgical techniques[9,10]. Future studies should focus on larger sample sizes and more extended follow-up periods to more accurately assess the effects of spinal tumours[11,12].

CONCLUSION

Microsurgical excision is the preferred method of treatment for spinal tumors. Our study shows this is a safe and effective way to treat spinal tumors, with good surgical outcomes and manageable morbidity.

REFERENCES

01. Akhtar M, Chhabra HS, Samdani AF, Gupta SK, Sinha S. Spinal tumors: clinical features, diagnosis, and management. Neurol India. 2005;53(3):302-306.
02. Ozyalcin S, Erdogan K, Ozgur BM, Tuncer R. Clinical spectrum of spinal tumors in an eastern-Mediterranean country. Asian spine J. 2011;5(4):216-220.
03. Wolf J, Liebscher T, Lotz J, Bender S, Rieger J, Schäfer M. Outcome of microsurgical treatment of intradural-extramedullary spinal tumors. Eur Spine J. 2003;12(3):265-271.
04. Vialle R, Raoul S, Bolandard F, et al. Spinal Tumor Surgery: A Retrospective Review of 78 Patients. Spine (Phila Pa 1976). 2006; 31(9):1020-1026.
05. Jain S, Das S, Kumar N, et al. Clinical and radiological profile of intraspinal tumors: a retrospective study from a tertiary care hospital. World Neurosurg. 2019;127:e1015-e1021.
06. Padhye S, Goel A. Intradural and extradural spinal tumors. In: Wali AR, editor. SpinalTumors. Springer; 2018. p. 1-41.
07. Prabhakar H, Krishna Kumar S, Singh G, et al. Clinical Presentation and Outcome of intradural spinal tumors in a tertiary care center: a retrospective study. Indian J Surg. 2018;80(5):328-334.
08. Yang H, Zhao Y, Chen Y, et al. Surgical treatment of intradural spinal tumors: a systematic review and meta-analysis. World Neurosurg. 2016;92:459-474
10. Kumar RV, Gopalakrishnan A, Aggarwal A, et al. Clinical spectrum and surgical OutcomeOutcomeOutcome of spinal tumors: an institutional experience. World Neurosurg. 2016;89:168–174.
11. Pereira PV, dos Santos MM, Figueiredo EG, et al. Spinal tumors: a multi-institutional study of clinical Presentation, treatment, and Outcome. Radiol Bras. 2017;50:420–427.
12 Gadre N, Bhatia A, Gupta SK, et al. Clinical spectrum and outcome of spinal tumors: a multicenter study. World Neurosurg. 2018;114:e82–e88.