

POSTOPERATIVE MANIFESTATIONS IN TWO CASES OF UNDIAGNOSED MENINGIOMA

Sunila Sharma¹, R.Nathani² Dr. Usha Srivastava³
Senior Consultants: 1. Anaesthesia, 2. Neurosurgery 3. Gynaecology

Institutions: Case-1 Batra Hospital & Medical Research Centre, New Delhi- 110062, Case-2 Kalyani Hospital, Gurgaon

Correspondence: Dr.Sunila Sharma, Fortis Flt. Lt. Rajan Dhall Hospital, B-1, Vasant Kunj, N.Delhi-110070 Tel.No.42776222

About the Author: Dr. Sunila Sharma is a senior consultant, anesthesiology at Fortis Flt. Lt. Rajan Dhall Hospital, New-Delhi and the founder member of the "All India Association of Practising Anesthesiologists". A gold medallist in alternative medicine and Hospital Management from Delhi, she figures in the International Who's Who of Professional and Business Women's hall of fame at the American Biographical Institute; she also serves on the ABI's research board of advisors. She has also authored two books: "Law and the Doctor" and "Myths and Realities of anesthesia"



Summary

Undiagnosed cerebral and spinal meningiomas can give rise to grave post anaesthetic and postoperative complications. Here we present two such cases in which paraparesis after a spinal anaesthetic occurred in one case and medullary coning resulting in respiratory failure and death in the second case.

Key words:

Cerebral, spinal, meningioma, morbidity, mortality

Introduction

In previously undiagnosed and unsuspected cases of meningioma, the diagnosis and management posed a challenge to the knowledge and skill of the anaesthesiologists and the surgeons.

Here we present two cases of undiagnosed meningiomas (Cerebral meningioma in case 1 and Spinal meningioma in case 2) that had significant postoperative morbidity in both

Case 1: A forty four year old female was scheduled for an abdominal hysterectomy under general anesthesia. She underwent laparoscopic assisted uterus dissection which was converted to open abdominal hysterectomy following minor bladder injury. The bladder was sutured.

Her immediate postoperative recovery was uneventful. She was shifted to her room in the ward, eight hours after an uneventful postoperative course in the recovery room. On reaching her room she complained of pain at the operative site. An intramuscular injection of pentazocine 30mg and promethazine 25mg was given on orders of the gynaecology resident on duty.

Four hours later the nurse was informed by the relatives that the patient was snoring and was not responsive to verbal commands or deep painful stimuli. An anaesthesiologist was called for assessment of this patient, who inserted an oral airway and performed an arterial blood gasometry, which was found to be normal.

The following morning, the patient was still not responding to commands as well as painful stimuli. Her pupils had become unequal and were unresponsive to light. A CT Scan of the head was done. It revealed a large parietal meningioma. The neurosurgeon was contacted and she was prescribed mannitol and prophylactic anticonvulsants. OT was informed for an emergency craniotomy. In the meantime the patient was shifted to the intensive care unit. There on transfer, she developed signs of respiratory distress and medullary-coning. She was immediately intubated and put on mechanical ventilation. While awaiting OT her vitals became unstable and she suffered from a cardiac arrest. She could not be resuscitated inspite of all resuscitative measures.

Case 2: A 26 year old lady underwent LSCS for foetal distress under spinal anaesthesia which was followed by bilateral lower limb weakness. Paraparesis after spinal anaesthesia was attributed to the technique itself. A neurological examination performed by the neurologist, on the second postoperative day revealed that the muscle power in legs was 0/5 bilaterally. Knee and ankle jerks were exaggerated on both the sides, and plantar reflexes were up going. The upper limb also showed increased reflexes in the biceps and triceps. MRI showed an ovoid extramedullary intramural mass in the spinal canal posterior and to the left of the compressed spinal cord at D3 and upper D4 vertebral level. A neurosurgical operation for spinal decompression was performed. The patient was discharged from the hospital with a tablet of wysolone 20mg daily along with a tablet of Ranitidine 150mg twice a day. The paralysis of lower limbs gradually improved over two months after decompression surgery.

Discussion

Two patients, discussed above, with undiagnosed meningiomas during the preoperative period, who presented to the hospital like any

other ASA grade I patient, had a very stormy postoperative recovery period.

The postoperative mortality in the patient with cerebral meningioma made us ponder, whether the history of routine headaches or migraine, which is usually dismissed by the patient, surgeon as well as the anaesthesiologist as insignificant during the pre-anaesthetic check up is significant enough to warrant routine performance of preoperative CT scan in all patients undergoing major surgical procedures, to rule out meningiomas.

Any preoperative history of headache, vomiting or other signs of increased intracranial pressure like diplopia was neither elicited nor suspected in case 1. An intramuscular injection of Pentazocine 30mg with promethazine 25mg seemed to precipitate an increase in intracerebral pressure by causing an airway obstruction following deep sedation.

The meningioma is usually a benign tumour and carries the possibility of "cure" in approximately 80% of cases when operated by a skilled neurosurgeon¹. The cell of origin for the meningioma is the arachnoid cap cell which is found on the meninges of the brain in the paccionian granulations. These serve as the one-way valve system between the water system of the brain and the veins that drain from the brain to the heart. Interestingly, these tumours have an embryologic relationship with cells found in the muscle layer of the uterus. In fact, it is exceedingly difficult for the pathologist to distinguish the meningioma from the fibroid tumours of the uterus under the microscope.

Also, they share the characteristic female hormonal receptors (oestrogen and progesterone) on their cell surfaces. This characteristic has led to the testing of anti-oestrogen receptor agents, such as tamoxifen, as a growth-inhibiting agent in these tumours. Meningiomas in the spinal canal are usually intradural and extramedullary. Combined intradural and extradural growth and entirely extradural growth have been reported in 3-10% of patients². The extradural tumour may extend into the intervertebral foramen. The intradural tumours can occur at any location around the circumference of the spinal dura.

Most tumours tend to be situated lateral to the spinal cord, with ventrolateral being the most common site. These tumours are most frequent in the thoracic region. MRI usually gives all the information needed to plan a surgical procedure.

The prognosis for extradural meningiomas, even when a subtotal removal has been done is good. Excellent results have been reported by several neurosurgeons. In two published series, using microsurgical techniques, only one of 29 patients & one of 25 patients respectively

showed slight deterioration, otherwise significant neurological improvement has been reported even in those who had a serious preoperative neurological disability^{2,3}. Postoperative complications related to the operation site include neurological worsening, cerebrospinal fluid leak, arachnoiditis, meningitis, and wound infection.

The intention of publishing these case reports is to share the possibility of the existence of meningiomas without any symptoms in the preoperative period in any patient presenting for an elective or an emergency operation. The postoperative morbidity in terms of excessive sedation and coma occurring within 24 hours of the operation may be attributed to the anaesthetic. Similarly, the occurrence of the residual paralysis after a spinal anaesthetic may be blamed to the anaesthetic technique or the drug unless proved otherwise.

References:

1. John R. Mangiardi, Howard Kane. The meningioma is the neurosurgeon's "friend" and often his most enduring challenge. www.brain-surgery.com/mening.html
2. Ojemann RG. Crowell RM. Ogilvy CS. Management of cranial and spinal cavernous angiomas , Clinical Neurosurgery. 40:98-123, 1993.
3. Ojemann RG. Management of cranial and spinal meningiomas Clinical Neurosurgery. 40:321-83, 1993.

Parietal Meningioma (case-1)



Spinal Meningioma (case-2)

