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Unexpected Post operative complications of intradural extramedullary meningioma of spinal cord: Report of 2 cases

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ABSTRACT

Intradural neoplasm is outside the spinal cord but within the dura mater. The most common clinical presenting symptoms are limb weakness including back ache and radicular pain. These cases illustrate the challenges for a surgeon regarding complication and management of such patients. We present two cases, case A, 40 yr old female with complaints of tingling and numbness below the waist since 20 days with difficulty in walking for 7 days. Pre operatively MRI reveal intradural extra medullary mass placed right anterolateral to the spinal cord from C6,7- T1 s/o Meningioma. Case B, 45 yr old female with complaint of tingling and numbness below the waist since 20 days and difficulty in walking for few weeks, also tingling, numbness and weakness of Rt hand and to lesser extent in forearm. Pre operatively MRI shows mass intradural extra medullary placed side by side to the left of spinal cord at D7. Both the cases were operated successfully with removal of described masses. Both cases shows CSF leakage but at different interval of time. And both cases were managed with different methods but with success. We present these cases to demonstrate the relevant/rare complication and there management accordingly.

INTRODUCTION

Intradural extra medullary neoplasm are located outside the spinal cord but within the dura sheath. Surgical removal of these masses is possible with less or no complication. We present two cases operated for Intradural extra medullary neoplasm and both cases had CSF leakage as a complication. Both cases were managed in different fashion but with excellent results. We present these cases to demonstrate the relevant/rare complication and there management accordingly.

CASE REPORT

Case A, 40 year old female presented with history of tingling and numbness below the waist since 20 days with difficulty in walking for last 7 days. Pre operatively MRI shows intradural extra medullary mass placed anterolateral to the spinal cordfrom C6,7- T1 s/o Meningioma [figure 1].During the surgery mass was excised butdura could not be closed as the cord herniated out of the dural opening made for excision [figure 2]. A graft was considered but the idea was dropped as the graft had to be a big one to accommodate herniating cord. Cord has to have been under pressure for long years if not since birth. Thus in due course ones the cord takes its normal position that area would become a duro-arachnoid pouch (CYST).It will cause traction on already bruised segment of cord.In rare case may not allow normal position of cord. Paraspinal muscle closure done in multiple layers & Subdural and skin closure was done separately. Following surgery, patient regained sphincteric control and sensations in 48 hr. She started walking with support from 6th post operated day. Repeat MRI scan of relevant area showing enhanced surgicel limited adjacent to the duramater and periphery [figure 3]. Patient sutures were removed on 10th day and was discharged. She came back after a week with a large collection of fluid (CSF) at the site of surgery with headache.MRI showed a large CSF collection communicating with the CSF collection at the open dura mater seen in previous MRI [figure 4]. CSF was aspirated and pressure dressing was applied. Headache disappeared the following day &pt started walking. She may have developed weakness either due to CSF pressure or psychologically but the question remained " why patient developed CSF collection after 20 days of surgery ?".The possibility of Hydrocephalus was confirmed by CT scan. Brain CSF density was >7 HU (normal 3HU) suggesting inspection. Repeat scan after 10 days showed reduced density of CSF to normal 3 HU [figure 5]. Patient will require a CSF shunt since cortical sulci are totally obliterated and we need time to have a clear CSF before inserting a dead structure into the ventricle. Patient was discharged but her relatives were clearly told the need of CSF Shunt with reasoning.

Pt was kept with pressure dressing and tablet Diamox (Acetazolamide) 250mg 8hrly. Advised not to continue beyond few weeks. However pt came in April 2016 with smaller bulge and still being on Diamox 250mg.now on twice a day and dose decided by herself.MRI of the area again showed same picture as in past with reduced CSF. Pt again chose not to have a CSF shunt. However she walked well and uses Rt hand about 70%.Pt ignored suggestion of a CT Brain to compare and assess size of ventricle and to see if sulci are filling with CSF?. Reason-will do before surgery.

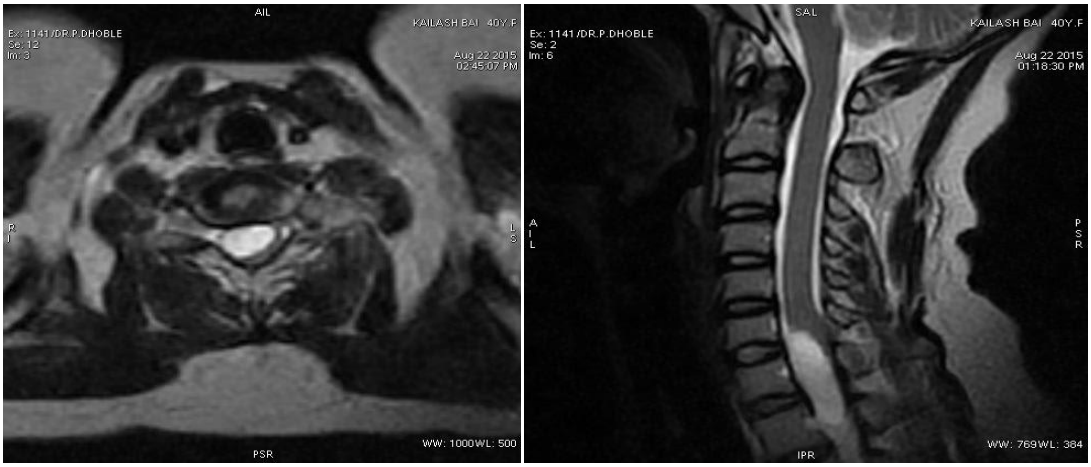

Figure 1

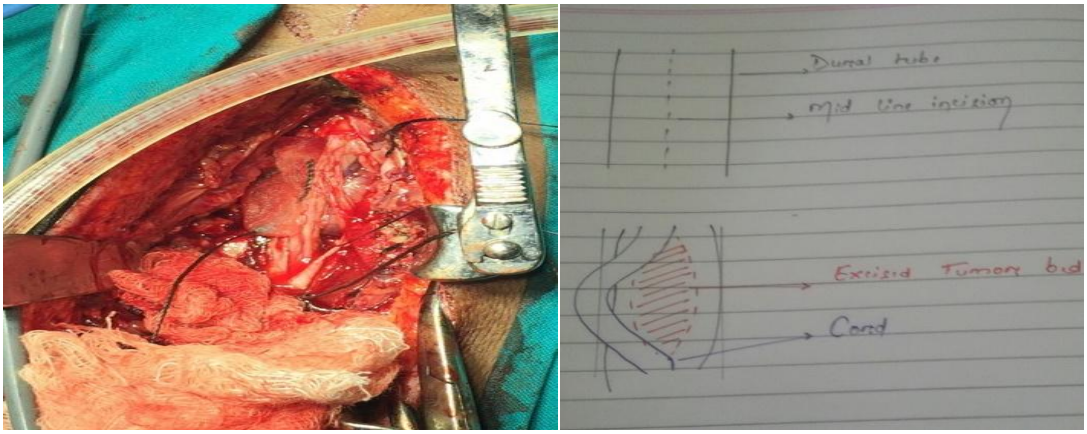

Figure 2

Figure 3

Figure 4

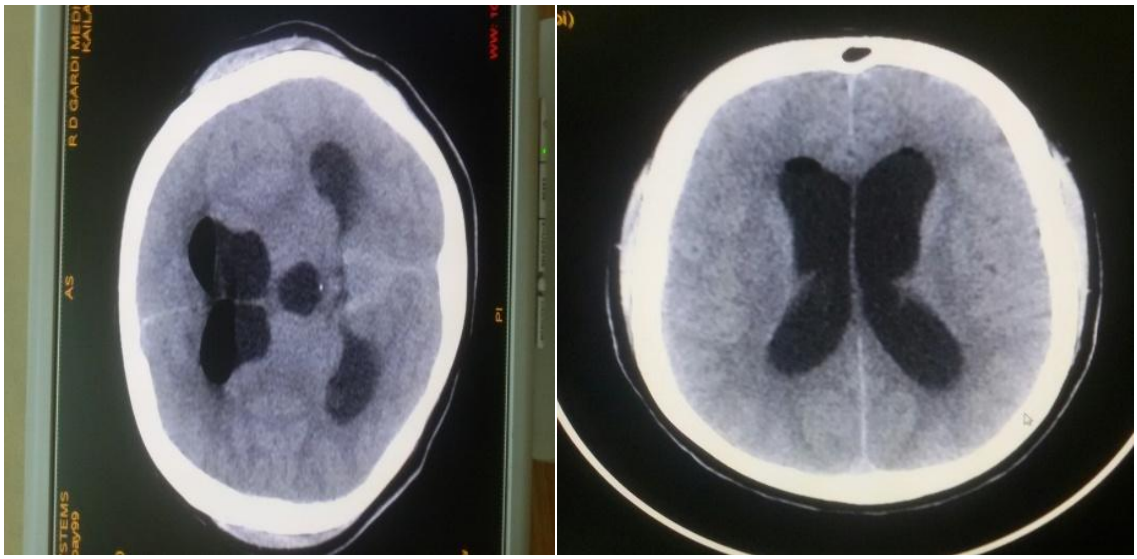

Figure 5

Case B, 45 year old female present with history of tingling and numbness below the waist since 20 days and difficulty in walking and tingling. sensation around lower costal area for last few weeks. Pre operatively MRI revealed intradural extra medullary mass placed side by side to the left of spinal cord at D7 [figure 6]. During surgery mass was excised and dura was closed [figure 7]. After surgery mini romovac drain started showing CSF from 2ndpost operative morning, signifying CSF leak. Dimox 250mg was started but failed to reduce CSF leak so a lumber subdural drain was inserted, Dimox was stopped and mini romovac was removed. Drain collected CSF about 400 ml/day. A tight dressing over the operated area was placed encircling the patient body and was kept for 10 days. On 8th day drain's capacity flow was reduced to half by the IV set regulator. After 12 hrs, further 25% and on 9th day drain was totally obliterated. This suggested CSF circulation to be normal being absorbed from the physiological channels. Sutures were removed and drain was pulled out and after observing over one week patient was discharged.

The amount of drain collected kept reducing. Besides this pt's severity of headache was used as titration to gauze amount of CSF in intracranial compartment. As low pressure due to drained CSF will cause headache and enough CSF in intracranial compartment will improve headache.

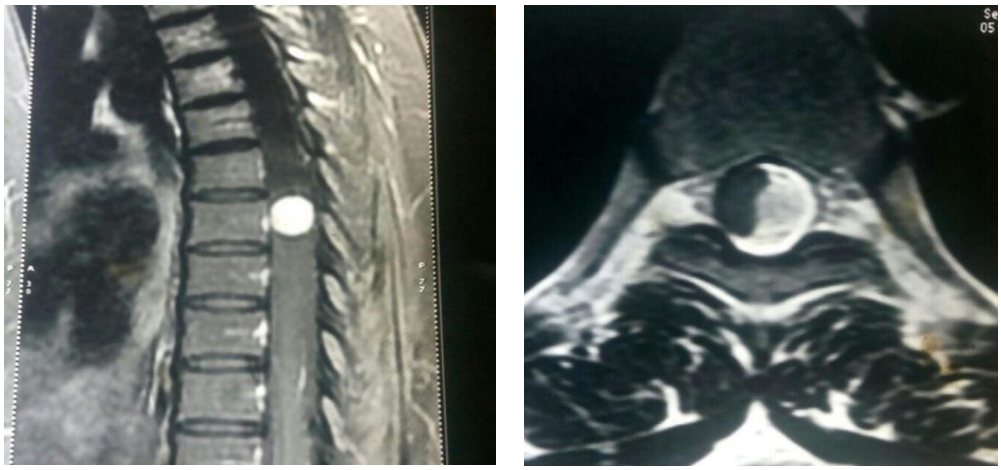

Figure 6

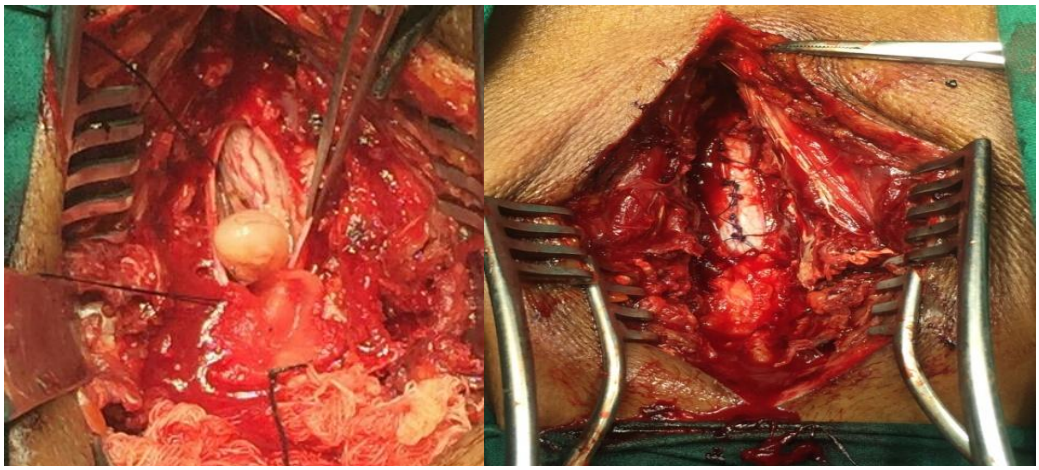

Figure 7

DISCUSSION

Spinal cord tumors (intradural extra axial) occur rarely with incident level of 10/100000[1]. Common spinal cord tumors are nerve sheath tumors such as schwannoma and neurofibroma (30%) followed by meningioma (25%)[2].Many intradural extra medulary tumors are benign and are treated primarily with surgical excision[3]. Post operative CSF leakage is rarely seen. We present case report of two patients who had CSF leakage, which was unexpected. We were forced to leave duramatter open in 1st case as explained. We treat both of the cases in a very different fashion and with success. In one case we just aspirate the CSF and apply pressure dressing as CSF leakage decreases and patient regain her power and in another case we put a lumber drain regulated by I/V set regulator. This CSF is normally being absorbed from the physiological channels. In both of these cases the availability of the resources allow us to use pressure bandage and lumber drain with I/V set regulator which turns out to be a life saver. At last we come to this conclusion that the clear, colourless, odorless, tasteless, invisible liquid can cause havoc in innumerate ways if its(CSF) dynamics are altered in any manner and above examples are only two such. Whatever may be the methodology of playing mischief, the CSF forces the surgeon to spend nights on sleepless pillows.

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