

## Calcified Spinal Cord Meningioma 'stone': Case Report

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**G. Rahbour, FRCS**

Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Preston, PR2 9HT  
England, UK

**I. Ughratdar, FRCS**

Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Preston, PR2 9HT  
England, UK

**R. Ramaswamy, FRCS**

Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Preston, PR2 9HT  
England, UK

**A. Ahmed, FRCS**

Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Preston, PR2 9HT  
England, UK

**C. Davis, FRCS**

Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Preston, PR2 9HT  
England, UK

**Address for correspondence**

G. Rahbour, FRCS  
Department of Neurosurgery  
Lancashire Teaching Hospital NHS Trust  
Royal Preston Hospital  
Sharoe Green Lane  
Preston, PR2 9HT  
England, UK  
E-mail: grahbour@doctors.net.uk

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We report a case of a patient who presented with Brown Sequard Syndrome as a consequence of a large intradural, extramedullary meningioma. Intra-operatively the rare finding of a complete stone was made. To the author's knowledge and on search of the current literature, there has been no reported case of findings of a complete stone intra-operatively. With the example of this case, the treatment of calcified spinal meningiomas will be discussed.

**Key Words:** Brown Sequard Syndrome, meningioma, spinal tumor

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This case report is of a 64 year old right handed lady, whose previous medical history consisted of hypertension, hysterectomy, and thyrotoxicosis treated with radio-iodine 12 years previously. She was an ex-smoker and had a moderate alcohol intake, with medication including aspirin, bendroflumethiazide and clonazepam.

In late March 2005, when she was independently mobile, she tripped and fell against her outstretched arm and immediately developed pain in the left buttock which radiated to the mid thigh. About a week later she noted paraesthesia in the feet, particularly the left, with extension to the waist. The sensory symptoms had persisted, and by December 2005 she felt as though she was walking on broken glass. She had noted difficulty in temperature appreciation with the left foot and her gait had progressively deteriorated with unsteadiness and weakness of both legs. On presentation in December she was mobilising with the assistance of a stick. There was no history of sphincter disturbance and no disturbance of upper limb function.

On examination she walked with a spastic right leg. There were no signs in the cranial nerves. Tone and power were normal in the upper limbs but she had brisk upper limb reflexes with bilateral finger jerks. The right leg was spastic with sustained ankle clonus and she had an asymmetric paraparesis, more marked on the right than the left, with flexor plantar responses. She had a sensory level on the left to pin prick to T4, and there was severe impairment of dorsal column function in the right leg with absent joint position sensation in the right foot and impairment of vibration sensation to the iliac crest.

The signs gave an impression of Brown Sequard Syndrome, which was likely to be related to her fall in March 2005.



Figure 1. Magnetic resonance Imaging of the patient, A: T1W1 saggital view, B: T2W1 saggital view, and C: T2W1 axial view showing intradural extramedullary tumor.

Magnetic resonance Imaging (MRI) scans (**Figures 1**) however, demonstrated a large intradural extramedullary tumor with a low signal intensity centre situated anterolateral to the spinal cord and causing marked cord compression at T1/T2 level, most likely meningioma.

She underwent T1-T2 laminectomy and excision of the tumor which on subsequent histopathological examination turned out to be a meningioma. Intra-operatively a complete calcified stone was found surrounded by soft tumour. Post operatively she improved clinically and was mobilising better than preoperatively, on discharge.

### Discussion

Our case showed the findings of a rare ‘stone’ in the spinal canal intra-operatively. Review of the literature was performed using the search facilities provided by medline via [www.pubmed.gov](http://www.pubmed.gov). Using the keywords calcified, spinal cord and meningioma, eighty-five items were listed. Review of these revealed no case report of findings of a complete stone at time of surgery.

Meningiomas are common spinal tumors that have a favourable prognosis if resected completely. Microscopic calcification is frequently found in spinal meningiomas because of psamma bodies.<sup>1</sup> Where they are particularly numerous, they have a tendency to fuse and form calcium spicules.<sup>2</sup> The gradual confluence of calcium deposits can give the meningioma a rock-like consistency.<sup>2</sup>

They account for 25-46% of spinal neoplasms. They are generally benign, well circumscribed and slow growing. They become clinically evident in the thoracic region and occur most frequently in middle-aged women.<sup>3</sup>

Outcome from surgery for spinal meningioma can be good, despite the severity of the preoperative condition;

however, en plaque and highly calcific tumours still bear a poor prognosis.<sup>4</sup> Total resection of a spinal meningioma is usually not difficult, but if the tumor is ventral to the cord and calcified, surgery becomes hazardous and may damage the cord.<sup>3</sup>

A calcified anterior spinal thoracic meningioma should be managed like the more frequent calcified disk herniation despite the increased risk of cerebrospinal fluid leakage requiring subsequent repair.<sup>5</sup>

Our patient has fortunately had a good outcome, and her progress will be monitored.

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