



Minimally Manipulative Extraction of Polycystic Cervical Neurocysticercosis

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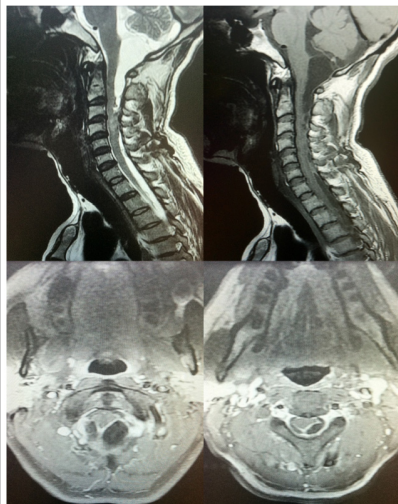
Introduction

Intradural extramedullary cervical spinal neurocysticercosis is an uncommon manifestation of neurocysticercosis. We report a case of a middle-aged man with neurocysticercosis infection in the intradural extramedullary cervical spine and brain who originally presented with bilateral parasthesia of his extremities and progressively unsteady gait.

Results

On examination he had loss of sensation to both arms and legs. 4 to 4+ strength of arms and legs proximally. Brisk DTRs throughout, positive Hoffman's sign, bilateral Babinski sign. He demonstrated dysmetria and impaired rapid alternating movements. His gait was wide-based and unsteady. C-spine MRI (Figure 1) demonstrated large enhancing polycystic lesions with compression of the cord and brainstem. CT of the head revealed multiple intraparenchymal calcific nodules. T-L spine MRI showed diffuse leptomenigeal enhancement with large nodules of the lower lumbar spine.

Figure 1

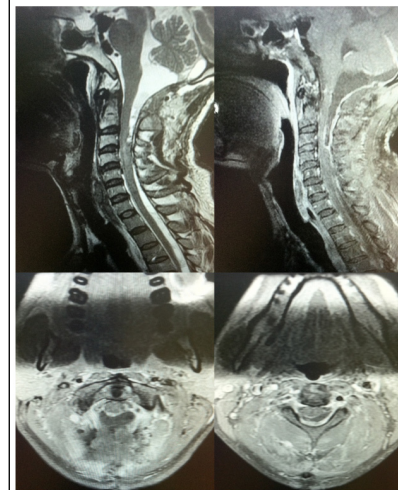


Preoperative imaging: Sagittal fast relaxation fast spin-echo T2 (upper left) and sagittal T1 (upper right) MR imaging demonstrating a septated lesion of the cervical medullary junction causing spinal cord compression. Axial T1 MR imaging with contrast at C1 (bottom left) and at C2 (bottom right) demonstrating midline septation and tethering behind C2 lamina.

Conclusions

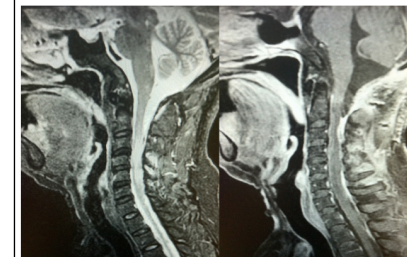
The patient elected for surgical treatment and underwent a suboccipital craniectomy, C1 laminectomy, resection of intradural extramedullary lesions, untethering of cervical spinal cord. Upon initiating durotomy at the cervicomedullary junction, multiple large cystic masses expressed themselves from the durotomy site. Extraction of the cysts could be accomplished with minimal exposure of neural elements. Spillage of cyst contents from one of the cysts did not result in postoperative meningitis, presumably as a result of the cyst fluid spilling outside the CSF space. Following removal of the mobile cysts, the dura was opened widely, tethering of the cord at C2 was identified and released. Histopathology analysis of the cyst revealed racemose neurocysticercosis. He continued to improve clinically and had no recurrence of cystic lesions.

Figure 2



Postoperative imaging, day 1: Sagittal fast relaxation fast spin-echo T2 (upper left) and sagittal spin-echo T1 post gadolinium (upper right) demonstrating removal of the cyst with septation at C2 and C4 tethering. Axial T1 MR imaging with contrast at C1 (bottom left) and at C2 (bottom right) demonstrating removal of the cystic lesion removal posterior to the respective lamina.

Figure 3



Postoperative imaging, month 5: Sagittal short T1 inversion recovery (left) and sagittal spin-echo T1 post gadolinium (right) demonstrating no recurrence of the cystic lesion, persistent tethering at C4, and myelomalacia.

Learning Objectives

By the conclusion of this session, participants should be able to:

- 1) Describe the importance of intradural extramedullary cervical spinal neurocysticercosis.
- 2) Discuss, in small groups, the presentation, diagnosis, and treatment options for intradural extramedullary cervical spinal neurocysticercosis.
- 3) Identify an effective treatment for intradural extramedullary cervical spinal neurocysticercosis.