Ependymal cyst of the spinal cord presenting with acute paraplegia

Sir: Ependymal cysts of the spinal cord are rarely encountered and reported. The usual presentation is pain, associated with a slowly progressive neurological deficit, the distribution being dependent on the level of the cyst. By contrast, the case of a patient with acute sensorimotor paraplegia caused by an ependymal cyst of the spinal cord is presented.

On 8 August 1986, a 25 year old black male experienced the acute onset of severe, midline upper thoracic back pain while exercising with weights. Three days later he developed band-like chest pain in a T1–T3 distribution and bilateral lower extremity weakness. The following day he noted that he was dragging both feet when walking. The next day he awoke to find that he could not move either lower extremity and was numb below his nipples. His chest pain and upper thoracic spinal pain persisted. He was then brought by ambulance to the Harbor/UCLA Medical Center.

The patient had a flaccid paraplegia, patulous anal sphincter, an absent bulbocavernous reflex, absent patellar reflexes, and normal Achilles reflexes bilaterally. The plantar response was absent bilaterally. Pin and touch sensation were absent below T4 on the right and below T6 on the left. Position and vibration sensation were absent in both lower extremities. The upper thoracic spine was markedly tender to palpation over the spinous processes of T1 and T2. No cutaneous abnormalities were noted.

Plain radiographs of the spine were normal. Positive contrast myelography with a water soluble agent showed a complete intradural, extramedullary block of the contrast column corresponding to the T1–T2 disc space on both cervical and lumbar injections of contrast. CT scan of the region of the block showed it to be caused by a right-sided intraspinal mass lesion anterolateral to the spinal cord.

The patient was taken immediately to the operating room where a C7–T2 laminectomy was performed. The exposure was extended to allow visualisation of the anterolateral aspect of the spinal cord by removing the right T1–T2 facet joint and the T2 pedicle with a high speed drill. Upon opening the dura, a tense, 4 cm, extramedullary cyst with an extremely thin, translucent wall was identified anterolateral to the spinal cord. The cyst contained clear, colourless fluid that appeared similar to cerebrospinal fluid. The cyst was easily dissected from the inner surface of the dura, but sharp dissection was required to free it from the spinal cord. Microscopically, the cyst was lined by a single layer of non-ciliated cuboidal to columnar epithelium with regular ovoid nuclei and a moderate amount of eosinophilic cytoplasm. Immunoperoxidase method for cytokeratin was strongly positive, whereas those for S-100 and glial fibrillary acidic protein were negative. Mucicarmine stain for mucin was negative. The final pathologic diagnosis was neuroepithelial lined cyst, consistent with ependymal cyst.

On the first postoperative day the patient had recovered partial sensation below the nipples, and was able to move his toes bilaterally. By one week he had anti-gravity strength in the left lower extremity, and some return of bowel and bladder function. At 6 months postoperatively he was walking with braces, had a nearly full return of all sensory modalities, and control of urine and faces.

An unusual feature of our case is the acute mode of presentation, although one previously reported case also presented with acute paraplegia.1 We hypothesise that the cyst acutely increased in size to produce this syndrome. A mechanism of the increase may have been a one-way valve effect on the wall of the cyst wherein an acute increase in the subarachnoid pressure filled the cyst. Upon normalisation of pressure the fluid could not escape. Our patient was lifting weights just prior to the onset of his symptoms; a Valsalva manoeuvre during this exercise could have been the source of the increased subarachnoid pressure. Interestingly, in the other reported case of acute paraplegia from an ependymal cyst the symptoms began shortly after exercise.1

The excellent postoperative return of neurological function from a preoperative paraplegia is also of note in this case. Although there have been both clinical and experimental demonstrations of functional recovery from a complete motor and sensory paraplegia caused by intraspinal space occupying lesions,2 this unusual circumstance occurs more often with the removal of benign extramedullary, intradural masses. There has been one reported case of recovery from a complete sensorimotor paralysis caused by an ependymal cyst.3 Our case and the previously reported cases3 demonstrate that paraplegia caused by a favourably located and benign intraspinal mass lesion is not a hopeless situation, and requires prompt operation.

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Abdominal muscle paralysis from herpes zoster

Sir: Segmentally distributed cutaneous eruptions along with sensory changes and pain are frequently seen in herpes zoster. Motor loss is infrequent1 and involvement of the thoracic musculature is rare.2 We describe a case of thoracic motor zoster presenting as an abdominal swelling 3 weeks after a typical cutaneous zoster.

A 60 year old diabetic female was referred because of swelling on the left side of her abdomen. This swelling had started about one week previously, 3 weeks after the start of a cutaneous vesicular eruption involving the area of the T8–T12 dermatomes on the left. Investigation for intra-abdominal tumour had begun. Examination revealed a healing erup.

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References

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