

Case Report

Spontaneous resolution of lumbar pseudomeningocele

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Study design: A case report of spontaneous resolution of a lumbar postdiscectomy pseudomeningocele.

Objectives: To suggest the role of nonoperative treatment even in symptomatic pseudomeningoceles.

Setting: Withybush General Hospital, Haverfordwest, Pembrokeshire, South Wales, UK.

Case report: A 65-year-old lady underwent L4/L5 discectomy for lumbar disc prolapse in 1998. As the patient did not have relief of symptoms, an MRI was taken at 1 month following the operation, which showed a residual disc at L4/L5 and a pseudomeningocele communicating with the subarachnoid space. The patient could not undergo further treatment because of the untimely demise of the surgeon. Over the next 3 months, the symptoms began to improve and the patient was totally asymptomatic and remained so for 3 years. In 2001, she was seen for a recurring leg pain and back pain and an MRI was done, which showed complete disappearance of the pseudomeningocele but with recurrent disc lesion.

Conclusion: Although the current medical literature favours re-exploration and repair of the dural defect in symptomatic pseudomeningocele, the authors are of the opinion that conservative treatment may have a role in the treatment of the above condition as illustrated by the above example.

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Keywords: complications; discectomy; pseudomeningocele; conservative treatment; lumbar disc surgery

Introduction

Pseudomeningocele is a complication of lumbar discectomy. It was first reported in the literature in 1946 following laminectomy for removal of neoplasm.¹ The definitive treatment of a symptomatic pseudomeningocele is surgical.^{2–5} We present the case report of a patient who had complete resolution of the lesion and symptomatic relief without any form of surgical intervention.

Case report

A 65-year-old lady underwent L4/L5 discectomy in 1998 for prolapsed intervertebral disc. The patient did not get symptomatic relief following the operation. An MRI was done 1 month following the operation to find out the cause of the persisting pain and it showed a pseudomeningocele communicating with the subarachnoid space (Figure 1). Unfortunately, the surgeon treating the patient expired untimely, which prompted the patient to continue symptomatic treatment with

painkillers. It was also compounded by the fact that the local hospital did not have another spine surgeon. But, the patient's symptoms improved and had total pain relief for the next 3 years. In 2001, the patient had recurrence of leg pain and the MRI showed that the pseudomeningocele had completely disappeared (Figure 2) and the patient had recurrent disc disease.

Discussion

Pseudomeningoceles are defined as extradural collections of cerebrospinal fluid that extravasate through a dural or arachnoid tear.^{6–8} The first three cases of pseudomeningoceles following a lumbar discectomy were reported by Swanson and Fincher⁹ in 1947. The incidence of pseudomeningoceles after lumbar discectomy varies from 0.19 to 2%.^{8,10}

It is postulated that a smaller dural tear would be more prone to develop into an encysted pseudomeningocele than a wider one. If the arachnoid remains intact there may be herniation of the arachnoid through the dural tear opening resulting in an arachnoid lined

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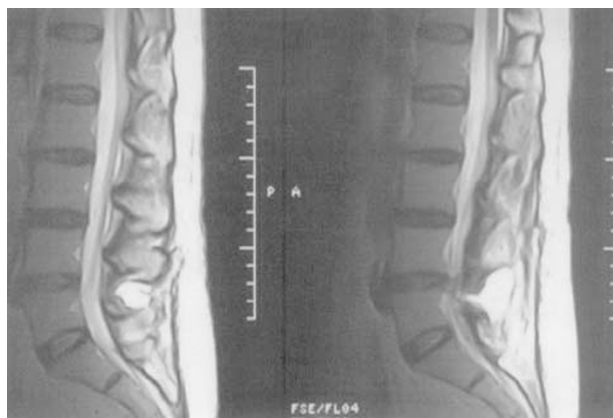


Figure 1 MRI (T2-weighted image) of the lumbar spine showing pseudomeningocele communicating with the subarachnoid space

cyst.^{3,11} A narrow dural opening acts like a one-way valve leading to increase in the size of the CSF collection and formation of a pseudomembrane and occasionally it gets encapsulated by fibrous tissue.^{5,12} Weakness of the paraspinal muscles following surgery causes the pseudomeningocele to expand.³ This may explain why a persistent CSF fistula after lumbar puncture does not cause pseudomeningocele formation.^{4,6,8,12,13} Nerve roots may herniate into the dural opening and form a physical barrier to the healing of the dura.²

Patients with postoperative pseudomeningoceles present with recurrence of symptoms months or years after the initial surgery.^{2,3,5,14} Sometimes a mild bulge under the operation scar may be the only clinical finding.^{3,5} Radicular pain may be because of herniation of nerve roots into the pseudomeningocele or adhesions of nerve roots to the edges of the sac.^{13,15} Focal neurological deficits also can occur although uncommon.¹⁵ In patients with large pseudomeningocele, headache may be a symptom.⁶

Intrathecal contrast-enhanced CT scan has the ability to identify the neck of the pseudomeningocele.^{8,10,15} The MRI is more effective for demonstrating the presence of a communication between the pseudomeningocele and the subarachnoid space without intrathecal contrast material.¹⁴

Very rarely the pseudomeningocele may undergo ossification and give rise to a mass compressing the exposed dura.¹⁶ The resolution of pseudomeningocele has been reported after repeated aspirations or with the use of fibrin patches.⁶ However, most of the authors are of the opinion that symptomatic pseudomeningoceles should be treated by surgical repair.^{2,3,5,6,14,15}

Conclusion

Pseudomeningoceles are an uncommon complication of lumbar disc surgery. Recurrence of back and leg symptoms following operation should alert the surgeon of this rare complication apart from recurrence of the disc. Nonoperative management may have a role even in

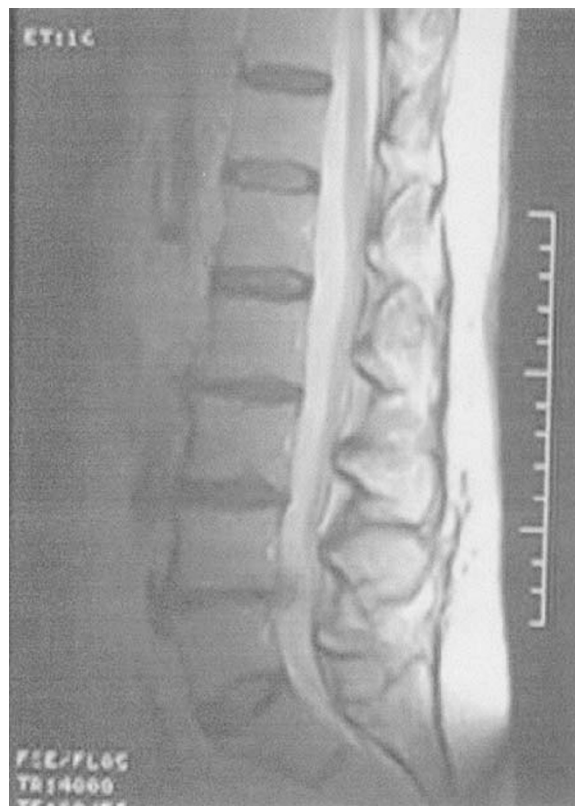


Figure 2 MRI (T2-weighted image) of the lumbar spine showing the disappearance of the pseudomeningocele

the treatment of symptomatic lumbar pseudomeningoceles as illustrated in the above example. Patients need to be kept under regular review to watch for neurological complications.

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