Infection of a Lumbar Dermoid Cyst by an Anaerobic Peptococcus

By

J. F. Schnegg*, M. Glauser**, and N. de Tribolet*

Summary

A case is reported of a dermoid cyst with a dermal sinus in a young adult, presenting as a subdural empyema due to an anaerobic peptococcus.

Introduction

Spinal cystic tumours such as dermoids, epidermoids, or teratomas can be associated with sinuses communicating with the skin. These sinuses are most frequently found in the lumbosacral and occipital regions. Cystic tumours with communicating sinuses are often associated with recurrent meningitis in childhood, and the microorganisms generally recovered are S. aureus, S. albus, or Gram negative enterobacteriae. We report a case of dermoid cyst with a dermal sinus in a young adult, presenting as a subdural empyema, due to an anaerobic peptococcus.

Case Report

This 23-year-old man was admitted to another hospital because of lumbar pain which had appeared after effort one month before, and had not improved after bed rest and physiotherapy. He had fever and discrete meningeal signs. Lumbar puncture revealed purulent fluid with innumerable Gram-positive cocci on Gram stain. Occipital puncture displayed clear fluid with 2560/3 leucocytes, 70% of which were monocytes and 30% polymorphonuclear leucocytes. Protein 186 mg%, glucose 30 mg%. Aerobic cultures of both lumbar and occipital fluid remained sterile. Despite treatment with flucloxacillin 12 g/day and gentamycin 240 mg/day, the pain worsened and weakness and paraesthesiae of both legs appeared. The patient was transferred to this hospital seven days later. A second lumbar puncture yielded pus, while the fluid recovered by occipital puncture was clear, with 60/3 leucocytes, 93% of which were lymphocytes, and 7% monocytes. Protein 21 mg%, glucose 51 mg%.
Because a subdural empyema was suspected, a laminectomy of the 4th and 5th lumbar vertebrae was performed. An intradural abscess of the lumbosacral region was found, resembling an infected dermoid cyst because it contained sebum and hair. Histological examination confirmed this diagnosis. It was not possible to extirpate the cyst completely. The Gram stain revealed innumerable Gram-positive cocci, and i.v. flucloxacillin and gentamycin were continued.

Aerobic cultures remained sterile, but later a pure culture of peptococcus magnus grew in strict anaerobic conditions. Antibiotic therapy was therefore switched to chloramphenicol 4 g/day. The patient recovered promptly and completely after operation, and left the hospital after seven days. Chloramphenicol was continued for a total of four weeks.

The day after chloramphenicol was stopped, the patient complained of progressive numbness in his left leg, followed by urine retention and faecal incontinence. His temperature rose again to 39.5 °C. At this time, a drop of pus surrounded by a reddish skin spot was noticed in the mid-sacral region. He was readmitted to hospital.

On clinical examination, the patient had a cauda equina syndrome. High lumbar puncture revealed yellow-green pus with, once again, innumerable Gram positive cocci on Gram stain and pure culture of peptococcus magnus on anaerobic culture. Occipital fluid was cloudy, with innumerable polymorphonuclear leukocytes.

This time, a fistulous tract communicating with the remaining intrathecal dermoid cyst was obvious, and the patient was operated on again. The sacral fistula was totally excised, together with the remnants of the dermoid cyst. On culture, the cyst contained peptococcus magnus. The patient was given i.v. penicillin G 24 Mio./day for 10 days, and then sodium fucidate p.o. 2 g/day for 6 months. The patient's condition progressively improved, and he left the hospital 40 days after operation.

When seen one year later, he had a discrete weakness on plantar flexion of both feet, and a slightly hypotonic anal sphincter, but was continent. He was working full-time.

**Discussion**

Lumbosacral congenital dermal sinuses, whether associated with a dermoid cyst or not, most often become symptomatic because of infection. This occurs early in life, and manifests itself in infants or children by recurrent meningitis that is often due to Gram negative bacteria. When a dermal sinus becomes symptomatic in adults, this occurs most often through the mass effect of an associated dermoid cyst. We were able to find only one case in the literature of a dermal sinus without dermoid cyst which became infected in early adulthood.

The case we present here is remarkable for two reasons: firstly, it is a dermal sinus associated with a dermoid cyst which became symptomatic through infection in an adult: secondly, the infecting organism is an anaerobic streptococcus, peptococcus magnus. Anaerobic microorganisms have rarely been recovered from infected dermal sinuses. This is in contrast to the bacteriological findings in