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Primary leptomeningeal lymphoma simulating chronic meningitis

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A 33-year-old male presented with increasing headache, vomiting and weakness, and gave a history of weakness for 2 months and an attack of hemiparesis and speech difficulty 1 month before, which improved spontaneously in half an hour. Physical examination was unremarkable on admission, except that two seizures were observed, separated by 5 min, which stopped spontaneously in 10–15 s. A few days later, his headache increased, and somnolence, visual loss, depressed deep tendon reflexes, loss of the plantar response, stiff neck and Kernig's and Brudzinski's signs developed. He had a moderate fever but only on the few days on which he had herpetic lesions on his lips, nose and face.

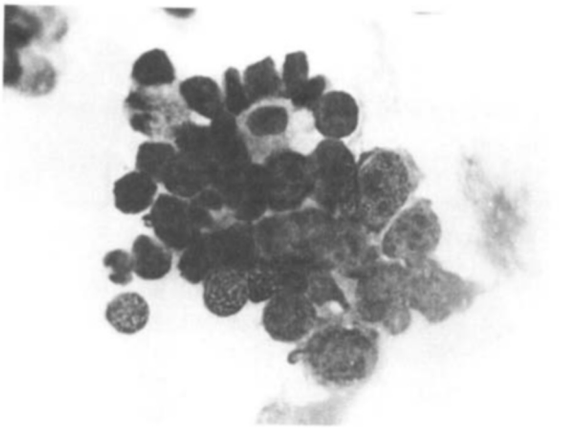


Figure 1 Malignant cells in cerebrospinal fluid.

The cerebrospinal fluid (CSF) examinations showed a clear CSF, with at first normal, but later increased, pressure, a pleocytosis of 100–430 cells/mm^3 with lymphocytic predominance (lymphocytes 65–100%, mostly atypical; neutrophils 0–35%), hypoglycorrhachia (the CSF/blood glucose ratio being 1/3:1/14), increased protein levels (Pandy positive, protein levels 48–61 mg/dL) and lactic dehydrogenase levels of 212–790 mg/dL. The microbiological and serologic evaluations of CSF and blood were negative (Gram, Ziehl–Neelsen, Giemsa, India-ink stainings; cultures; tests for brucellosis, syphilis, toxoplasmosis, tuberculosis, cytomegalovirus, Epstein–Barr virus, herpes simplex virus or human immunodeficiency virus infections). The cytopathologic examination of CSF by cytocentrifugation, drying the preparations at room temperature in air and May–Grünwald–Giemsa and periodic acid–Schiff (PAS) stainings showed PAS-positive malignant cells of lymphoblastic type (Figure 1). The complete blood count, erythrocyte sedimentation rate, urine examination, blood chemistry and serum protein electrophoresis were normal. The tuberculin test was negative and bone marrow aspiration was normal. Chest and paranasal sinus radiographs and thoracic and abdominal computed tomography (CT) scans were normal. Cranial CT and magnetic resonance imaging of the brain revealed ventricular enlargement, but no space-occupying lesion. The patient was accepted as a case of primary leptomeningeal lymphoma (PLML), and responded well to intrathecal chemotherapy.

In large series, primary central nervous system lymphoma (PCNSL) represents 0.5–1.5% of all primary brain tumors and 0.5–2% of all non-Hodgkin's lymph-

omas, and is limited to the cranial–spinal axis, without systemic disease. A known high-risk group for PCNSL comprises patients with immunosuppression, but in the last 15–20 years there has been a threefold increase in patients who are immunocompetent, and the causative factors for this increase are unknown [1–3]. PCNSL commonly presents as a rapidly space-occupying lesion. Rarely, patients without obvious brain parenchymal tumors present with only primary meningeal involvement [1–3]. Our case has remarkable similarities with the nine cases of PLML reported by Lachance et al [4]. These authors believe that PLML is a distinct clinical entity. Abnormal CSF is present in 80% of PCNSL cases with hypoglycorrhachia, increased protein levels or pleocytosis. It has been stated that finding malignant cells in the CSF is rare, with an incidence of 10–25% [1–4].

In a patient with pleocytosis, the first cause suggested will usually be central nervous system infection. Our patient also had remarkable similarities with chronic meningitis in his symptoms and the findings of physical and CSF examinations. However, other causes of pleocytosis must be remembered too, and PCNSL, or PLML, has therefore to be added to the differential diagnosis of chronic meningitis.

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Corynebacterium pseudotuberculosis infection in a butcher

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Infections due to *Corynebacterium pseudotuberculosis* are frequent in sheep and goats. However, infections due to this microorganism are rare in humans. To our knowledge, there have been only 13 cases described in the literature [1–11]. Since cultures growing *Corynebacterium* species are frequently considered to be contaminated, it is conceivable that the incidence of this disease is underestimated in human beings.

A 30-year-old Turkish man attended the surgical outpatient clinic because of a painful epitrochlear swelling on his left arm which had been present for 1 month. His past medical history was unremarkable. He denied ever having had venereal disease or venereal exposure. He had immigrated from Turkey to Switzerland 2 months earlier and he was unemployed. In Turkey, he had worked as a sheep rancher and butcher. He could not remember any previous trauma. His parents and his 11 sisters and brothers were living and healthy. The patient was afebrile and did not report symptoms of systemic disease. Clinical examination showed a firm, large (7×5 cm), moderately tender, non-inflamed, non-fluctuant swelling on his left arm which was attached to the humerus. In addition, there was a large (3 cm) tender axillary lymph node. The laboratory work-up revealed normal hematologic values except for a leukocytosis of 12×10^9/L. The C-reactive protein was 11 mg/L. An HIV screening test was negative. A soft tissue swelling but normal bone structure were seen in radiographs of the upper arm. Magnetic resonance imaging showed a mass of 7×4×3 cm between the triceps and biceps muscles infiltrating the muscle and the neurovascular bundle. This finding was interpreted as either abscess or sarcoma. With this differential diagnosis, a biopsy was performed but the operation revealed an abscess, which was drained. A total excision was not feasible because of infiltration of the muscle, vessels and nerve. Gram stain of the pus showed polymorphonuclear leukocytes, but no microorganisms. Two tissue samples grew *C. pseudotuberculosis* within 5 days. This isolate was initially interpreted as a contaminant. When the histology (see below) became available, it was considered to be the causative agent. Oral antimicrobial therapy with clarithromycin (500 mg b.i.d) was started for 2 weeks. After 3 weeks, the wound had healed and the axillar lymph node had become smaller. Three months later, the patient was readmitted to the hospital because of a recurrent large painful epitrochlear swelling on his left arm with erythema around the scar and a large fluctuant axillary node. He denied other symptoms.