

Froin's Syndrome Mimicking Guillain–Barre Syndrome in a Patient with Spinal Epidural Abscess

Sir,

Froin's syndrome is characterized by xanthochromia in the cerebrospinal fluid (CSF) and hypercoagulability due to an increase of the proteins level. The cause of the high protein content of spinal fluids is irritation of the meninges and inflammation.^[1]

Our patient is a 55-year-old female, presented with 14 days of posterior neck pain and 8 days of progressive weakness in the upper and lower extremities, fever, and adynamia. The patient had been treated 1 week before as a flu syndrome without any other relevant clinical finding. On physical examination, she was febrile, with weakness of both upper and lower extremities. Laboratory studies were as it follows: leukocyte count $18.4 \times 10^9/L$, with 84% polymorphonuclear cells; and an erythrocyte sedimentation rate of 60 mm/h. CSF analysis revealed 25 leukocytes, a glucose level of 50 mg/100 ml, and a protein level of 1300 mg/100 ml. The patient was evaluated by a neurologist who diagnosis a Guillain–Barret syndrome and initiates administration of intravenous immunoglobulin. After 24 h, the patient was revalued by another physician who requested a computed tomography of the cervical spine. In this examination, a cervical epidural lesion was found with evident mass effect [Figures 1a and b]. After neurosurgical consultation, it was decided to carry out an emergency cervical laminectomy. During surgery, it was documented an abscess in the anterior epidural space at the C2–C5 level. Purulent material collected at surgery revealed many polymorphonuclear leukocytes. Surgical culture from this abscess confirmed methicillin-sensitive *Staphylococcus aureus*. The patient received intravenous treatment with cloxacillin during 22 days. The patient remained neurologically injured with severe paraparesis during follow-up.

Spinal epidural abscess has an incidence of 0.2–2.8 cases/10,000 hospital admissions. This pathology requires a high clinical suspicion for early diagnosis and treatment.^[2–4] Spinal epidural abscess may result in early death. In most cases, surgical drainage is the best treatment option, to decompress the neural tissue and also for microbiological diagnosis. In Froin's syndrome, blockage of the circulation of the CSF due to inflammatory events or neoplastic lesions is the substrate of the pathology. A high concentration of proteins in the CSF is caused by exudation or transudation from tumors, infections (such as in the present case), and hematogenous factors in specific localized areas of the subarachnoid space. In the present case, the high protein level secondary to the

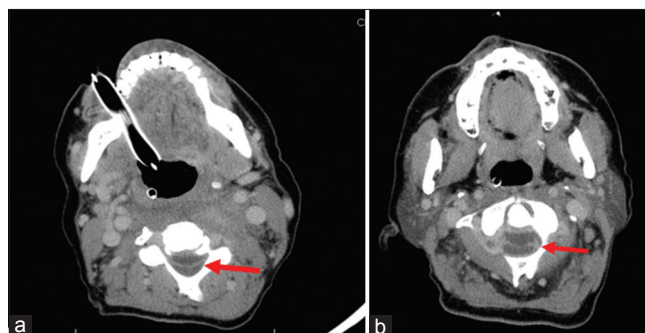


Figure 1: (a and b) Axial computed tomography cervical spine showing a cervical epidural abscess

epidural abscess was compatible with a Froin's syndrome but was initially diagnosed as Guillain–Barret syndrome. Doctors must pay attention to differential diagnosis in CSF analysis that presents with a high level of proteins in patients with progressive neurological deficits.

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Conflicts of interest

There are no conflicts of interest.

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References

- Govindarajan R, Khan T. Froin's syndrome: An uncommon mimicker of Guillain-Barre syndrome. *Eur Spine J* 2012;21:1674-5.
- Zimmerer SM, Conen A, Müller AA, Sailer M, Taub E, Flückiger U, *et al.* Spinal epidural abscess: Aetiology, predisponent factors and clinical outcomes in a 4-year

prospective study. *Eur Spine J* 2011;20:2228-34.

3. Khanna RK, Malik GM, Rock JP, Rosenblum ML. Spinal epidural abscess: Evaluation of factors influencing outcome. *Neurosurgery* 1996;39:958-64.
4. Mackenzie AR, Laing RB, Smith CC, Kaar GF, Smith FW. Spinal epidural abscess: The importance of early diagnosis and treatment. *J Neurol Neurosurg Psychiatry* 1998;65:209-12.

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