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Aseptic Meningitis Complicating Iotrolan Myelography

Iotrolan is a new contrast medium used mostly in myelographic studies. Aseptic meningitis associated with its use in myelography has not been reported previously. We report a case in which aseptic meningitis developed after CT myelography with this agent.

Case Report

The patient was a 50-year-old woman who had had frequency of urination and numbness of the left side of the trunk for a few years. Neurologic examination showed slight anisocoria (right > left), asymmetry of muscle stretch reflex (right > left) in both upper and lower extremities, hypalgesia and thermohypesthesia of the left side of the trunk, and hypopallesthesia in the right lower extremity. MR imaging showed a Chiari I anomaly and formation of a syrinx from the C3 to the T12 level.

Before instillation of 8 ml of iotrolan (Isovist, Schering AG, Berlin; 200 mg I/ml), the patient did not have any symptoms of meningitis, and examination of the CSF did not show any abnormalities. CT myelography showed swelling of the cervical cord. The morning after myelography, the patient had a headache and vomiting, a body temperature of 39.6°C, and a stiff neck. A lumbar puncture was done, and examination of the CSF showed a WBC count of 4261/μl with 70% polymorphonuclear leukocytes. The protein level was 231 mg/dl, and the glucose level was 31 mg/dl. We considered bacterial meningitis at first and administered antibiotics; however, we also considered aseptic meningitis associated with myelography because these two types of meningitis are indistinguishable both clinically and on CSF examination. Serial cultures of CSF and blood obtained before and 2, 5, and 9 days after antibiotic therapy was started were all negative. Seven days after myelography, the patient was afebrile and symptom-free. She recovered completely without any sequelae.

Discussion

Several complications associated with myelography have been reported, including headache, nausea, vomiting, dizziness, and tinnitus [1, 2]. Hyperosmolality, a toxic cation, and lumbar puncture per se have been implicated as important factors in producing the adverse effects of myelography [3]. The prevalence of such adverse effects is low, and serious ones occur rarely after myelography with nonionic contrast media such as iopamidol, iohexol, and iotrolan [1, 2]. The osmolality of iotrolan is 285 mmol/kg H_2O for 280 mg I/ml [4] and is lower than that of iopamidol and iohexol (638 mmol/kg H_2O and 622 mmol/kg H_2O, respectively, for 280 mg I/ml) [4] and is almost isosmotic with CSF. The osmolality of iotrolan is lower because it is a dimer of triiodinated benzene ring, whereas iopamidol and iohexol are both monomers of that compound.

Baker et al. [5] described a patient in whom aseptic meningitis developed after myelography with metrizamide. In that case, microbial culture of a sample from a batch of the contrast agent was negative. Although the remaining iotrolan was not cultured in our case, we have concluded that this case was one of chemical meningitis because repeated cultures of the CSF and blood were negative. Iotrolan may cause chemical meningitis, and physicians must be aware of this complication.

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