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## Accidental Spinal Cord Injection of Contrast Material During Cervical Myelography with Lateral C1–C2 Puncture

Although the hazards of cervical myelography via puncture of C1–C2 are well known [1, 2], this approach is commonly used. Complications have been reported sporadically [3, 4]. Injection of contrast medium into the spinal cord is rare [5, 6] and has been reported only for examinations with Amipaque (metrizamide).

### Case Report

A 64-year-old woman was admitted to our hospital with slowly increasing paresis of the extremities. Because an intramedullar tumor was suspected, cervical myelography with lateral puncture of C1–C2 was performed. A 22-gauge needle was used, and normal return of clear, colorless spinal fluid was seen. During the uneventful injection of Omnipaque (iohexol, 240 mg I/ml), a longitudinal stripe of contrast medium was observed centrally in the cervical canal in the C1–C2 area (Fig. 1A). Injection into the spinal cord was suspected, and the injection was stopped immediately, after approximately 8 ml of contrast medium had been injected. The patient did not complain of pain or any other side effects during or after the injection. A subsequent CT examination (Fig. 1B) suggested that the contrast medium had been injected into a syrinx with an open connection to the subarachnoid space. MR with 5-mm slices and T1- and T2-weighted images 1 week later did not show any syrinx or other abnormality within the cord (Fig. 1C). We therefore concluded that an injection into the spinal cord had taken place after all. The amount of contrast material injected into the cord was estimated to be about 1–2 ml [5, 6]. After the myelography, no additional neurologic deficits could be found. The final clinical diagnosis was degenerative myelopathy.

### Discussion

In two patients, injection of Amipaque into the spinal cord resulted in immediate paralysis, persistent after 8 months in one and shortlasting in the other [5, 6]. The lack of neurologic findings related to the

injection in our patient may reflect a lower toxicity of Omnipaque as compared with Amipaque. The view that increased pressure within the cord from the injected contrast medium is responsible for the neurologic deficits [5, 6] seems logical but, considering our experience with Omnipaque, it may be partly wrong. On one other occasion after cervical myelography with C1–C2 puncture, we have seen CT evidence of approximately 0.2 ml of Omnipaque within the spinal cord that was not associated with any subjective side effects or neurologic findings. Because small amounts of contrast medium within the cord may be hard to see on myelograms, the reported case gives us reason to believe that injections into the spinal cord are more common than adverse symptoms and signs indicate.

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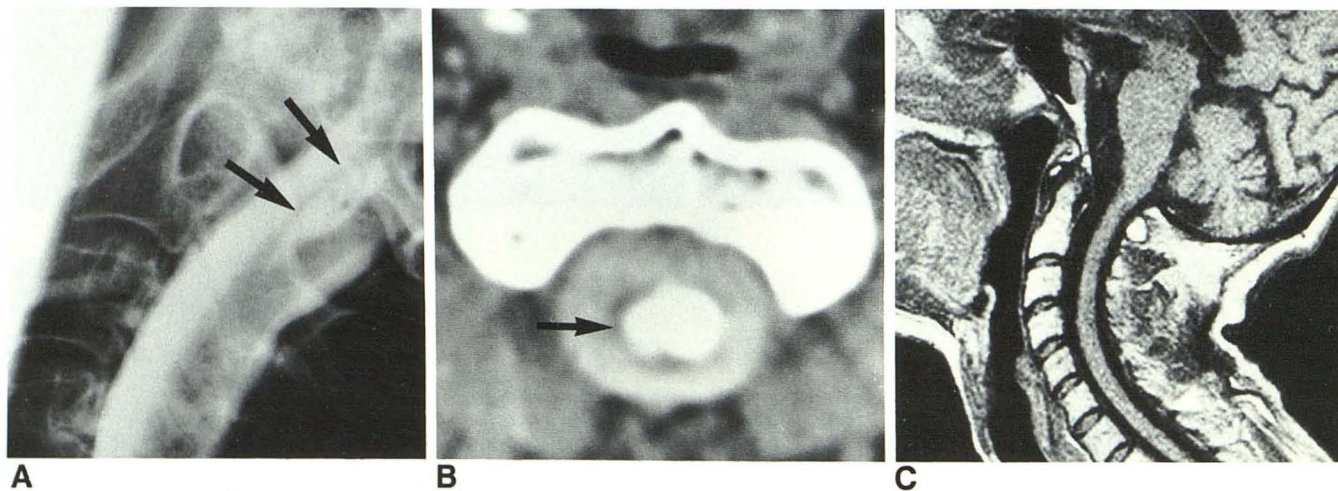


Fig. 1.—Accidental injection of contrast material into the spinal cord.

A, Myelogram shows accumulation of contrast material within spinal cord (arrows).

B, Axial CT scan performed immediately after myelography shows contrast medium within the cord (arrow).

C, MR image (TR = 650, TE = 30) obtained 1 week after injection is normal.