UNUSUAL COMPLICATION FOLLOWING PANTOPOQUE MYELOGRAPHY

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Myelography, using Pantopaque (ethyl iodoophenylundecylate), has been performed many times at this clinic and has been of unquestioned diagnostic value. We have encountered very little morbidity attributable to this procedure. However, recently a case that we feel merits recording was transferred to the University Hospital.

The patient was a 23-year-old white male upon whom lumbar myelography was performed at another hospital, because of the question of a herniated lumbar intervertebral disc. Nine cc. of Pantopaque were used, but only 4 cc. could be removed. The examination was reported as being quite difficult, but no abnormality was demonstrated. Nineteen hours after myelography the patient began to complain of severe headache. Twenty-four hours after myelography his temperature was 103°F. rectally. Thirty hours after myelography patient became irrational and highly irritable with a temperature of 105°F. rectally. Blood pressure was 150/40, count of white blood cells 22,000, and there was marked nuchal rigidity. A diagnosis of acute meningitis was made. The patient was given penicillin and 5 gm. intravenous sulfadiazine, and was transferred to the University Hospital.

Upon arrival at the University Hospital 85 hours after myelography, the patient seemed moribund. The blood pressure was 170/40, pulse rate was 60, respirations were of the Cheyne-Stokes type, and the right pupil was dilated and fixed to light. The left pupil was moderately dilated but reacted slightly to light. Early papilledema was present O.U. Only slight nonpurposive movements of the arms could be elicited by deep painful stimuli. There were no other localizing neurological findings.

Since this patient displayed signs of acutely increased intracranial pressure following lumbar puncture and myelography, it was felt that pre-existing brain tumor or congenital abnormality of the posterior fossa were also distinct possibilities. Bilateral Keene’s point trephines were carried out in the emergency room without any anesthesia. The right side was trephined first. Upon incising the dura mater on the right, the brain began to extrude under tremendous pressure. The right ventricle could not be tapped. At this point the patient’s respirations became slower and more irregular. A left Keene’s point trephine was placed. Again the brain was under tremendous pressure. The left ventricle was tapped. Approximately 20 cc. of a cloudy oily-appearing fluid shot out of the ventricular needle under great pressure. It was not possible to measure this pressure. With the release of pressure the patient improved markedly; his respirations became more regular, his blood pressure dropped to more nearly normal limits, and his conscious state lightened. A small amount of air was introduced into the ventricular system, and roentgenograms demonstrated a large amount of radioopaque material dispersed throughout the entire ventricular and cisternal systems of the brain, being noted particularly in the aqueduct and the cisterna magna (Fig. 1).

The ventricular fluid removed contained 5800 white blood cells per c.mm. and globules of oil. No organisms were definitely identified. The peripheral white blood cell count was 27,200. His temperature at this time was 103.4°F. rectally. Blood pressure was 130/100, pulse rate was 110, and respiratory rate was now 40.

He was then transferred to the hospital ward where massive doses of antibiotics were commenced and steroid therapy was instituted. Over the next few days the patient’s temperature subsided to normal limits, and his vital signs stabilized. It was necessary on the day of ad-
mission to perform a tracheostomy. The patient improved steadily; his pupils became equal and reactive within a matter of hours, and within 48 hours he was responding to verbal commands. As the level of consciousness lightened, it became apparent that multiple cranial nerve palsies were present. There were mixed supranuclear and peripheral palsies of the oculomotor nerves with definite paresis of the left lateral rectus, left medial rectus, right lateral rectus and disturbance of upward gaze. There was a definite loss of nasal field with papilledema in the left eye. Bilateral 7th nerve palsies, peripheral in nature, were present. A mild 12th nerve palsy was present on the right side. The patient improved so rapidly that by the 5th hospital day the tracheostomy tube was removed. Daily lumbar drainages were done in an effort to remove Pantopaque. Initially the pressures were slightly above normal, ranging from 250–300 mm. of water, with a few white cells present. Cerebrospinal fluid protein was initially 160 mg. per cent and decreased to normal by the 8th hospital day.

No organisms were demonstrated on any cultures of ventricular fluid from the initial ventricular tap, or from any of the succeeding lumbar punctures. Spinal fluid sugars were normal at all times. There was no history to suggest previous iodine sensitivity. Skin tests to Pantopaque were negative in concentrations of 1:10 and 1:1 using the skin-scratch method. There was no evidence of extrinsic protein sensitivity or allergy. Roentgenograms at weekly intervals demonstrated a progressive diminution in the amount of contrast material intra-cranially (Fig. 2).

The patient continued to improve, and at the time of his discharge on the 28th hospital day he was asymptomatic, complaining neither of headache nor backache. His incisions were healed, and he was mentally alert, oriented and cooperative. He had bilateral 6th nerve pareses and bilateral peripheral 7th nerve pareses, greater on the right than on the left. The remainder of the neurologic findings were normal.

He was seen frequently in the out-patient clinic where his course was that of continued improvement, so that almost 3 months after his myelogram the only positive neurologic findings were some decreased ability with recent memory and a minimal peripheral right facial palsy. No gross extraocular weakness could be detected at this time. Nineteen months after myelography patient had no complaints and had no neurological abnormalities.

**DISCUSSION**

In explaining the sudden onset of acute increased intracranial pressure and multiple cranial nerve palsies in this otherwise healthy young male following myelography, we can only surmise that bacterial contamination of the cerebrospinal fluid occurred at the time of myelography or that the sequellae were the result of an unusual sensitivity to the material used. It is, of course, possible that a combination