COMPlications following injection of
sclerosing agent to precipitate
fibro-osseous proliferation

WILLIAM E. HUNT, M.D., and WILLIAM C. BAIRD, M.D.*

Department of Surgery, Division of Neurological Surgery, The Ohio
State University College of Medicine, Columbus, Ohio

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A monograph was published in 1956 purporting to show that chronic low backache is in many instances the result of relaxation of the ligaments about the joints of the spine and pelvis. Treatment by the injection of an irritating solution consisting of the sodium salt of a vegetable-oil fatty acid, similar to that employed in the injection and treatment of varicose veins, was recommended. This treatment is alleged to produce proliferation of fibrous tissue and bone, thereby stabilizing the involved joints. Four thousand injections were reported, with "no unfavorable incident or sequelae." Complete relief of symptoms was reported in 90 per cent of the patients treated.

There have been two recent reports of complications following this treatment. Schneider et al. reported the case of a 50-year-old woman with intermittent attacks of low-back pain and sciatica for 15 years. Severe pain and paraplegia developed at the time of injection of sclerosing solution into the lumbar region. The paraplegia improved, but severe hydrocephalus developed about 3 months later. At operation a "markedly adhesive arachnoiditis was found about the rim of the cisterna magna." The patient expired a few hours after the procedure. At autopsy inflammatory changes were found at the base of the brain in the posterior fossa and the upper cervical spinal cord. There was perivascular infiltration about the major blood vessels and the choroid plexus. The brain was edematous. There was subependymal gliosis, with astroglial proliferation and nodular formation in the ventricles. The dura mater and leptomeninges in the lower spinal cord were fused together and frequently were indistinguishable. The authors felt that the chronic process of scarification was ascending, most pronounced around the lower segments of the spinal cord. They emphasized the extreme danger and inadvisability of injecting irritating solutions into areas where they may enter the subarachnoid space.

Keplinger and Bucy reported the case of a 53-year-old woman who had a transitory paraparesis following such an injection which subsided within 12 hours. She had recurrent headaches and stiff neck for about 2 weeks. About 7 weeks after the injection, a slowly progressive paraplegia developed, which rendered her unable to walk within 2 months. Five months after the injection, exploratory laminectomy showed severe arachnoiditis. Biopsy was reported to consist of dense collagenous fibrous tissue containing a few chronic inflammatory cells in the denser areas. The authors stated that the treatment of low-back pain by the injection of sclerosing solution is "inadvisable," and that there is "no clear-cut evidence that this method of therapy is of any value."

We have recently seen 3 patients with similar complications. In the first of these a mild paraparesis and communicating hydrocephalus developed. The hydrocephalus was controlled by ventriculojugular shunt. The second patient expired after a prolonged and unpleasant illness, with paraparesis and hydrocephalus caused by proliferative arachnoiditis. The third patient has had symptoms confined chiefly to the spinal cord.

* Present address: 900 Second National Bank Building, Akron, Ohio.
CASE REPORTS

Case 1. E.F., a 59-year-old man, was seen in consultation at the request of Dr. Norman Rothermich at White Cross Hospital on Mar. 14, 1957. He had considered himself well except for some backache until Jan. 22, 1957, when he underwent injection of a sclerosing solution into his lumbar area. During the injection violent pain developed in his lower extremities with a sensation of numbness about the lower part of the trunk. He had an intense desire to urinate. Headache and vomiting appeared later that day. In the succeeding weeks he became confused with marked deficit of memory and general dulling of mentality. He had intermittent visual hallucinosis with complete insight into the unreality of the peculiar objects that he was seeing. There were olfactory hallucinations and dysgeusia. He described symptoms suggestive of peduncular cinosis with complete insight into the unreality of the basal cisterns except the cisterna pontis. The ventricular system was virtually no filling of the subarachnoid spaces with hemorrhages and was readmitted to the hospital.

On examination he showed a picture similar to that noted on his discharge in April. The abdominal reflexes and the right knee jerk had returned, but again he was unable to sit unassisted and showed marked defect of memory and confusion. An electroencephalogram on July 12, 1957, was reported as grossly abnormal because of high-voltage, 1-2 per sec. slow waves over all areas, and diffuse 5-6 and 25-18 per sec. waves. Lumbar puncture released normal spinal fluid under a pressure of 210 mm. of fluid. On July 15, 1957, a ventriculojugular shunt was performed on the right side with a Holter valve.

On his 4th postoperative day his wife reported excitedly that he was "normal again." His mental dullness and euphoria had disappeared completely. He seemed to be totally amnestic for all events from the 3rd or 4th day following the injection until the 3rd or 4th day following the ventriculojugular shunt.

Since that time his legs have continued to improve. He still walks with the aid of two canes because of severe proprioceptive deficit, but motor power is good. The Babinski's responses have disappeared. Both knee jerks have returned and all deep tendon reflexes are now symmetrical. There is still occasional vertigo upon arising in the morning, but vomiting is rare. An electroencephalogram on Jan. 6, 1960, was reported as mildly abnormal because of the right temporal accentuation of diffuse 7-10 per sec. sharp-wave activity. As far as can be ascertained, his intellectual functioning is at a very high level, apparently not distinguishable from that prior to his illness. The Holter valve appears to be patent. The fundi are normal. His health otherwise is good.

Case 2. W.H., a 56-year-old man, had suffered from low-back pain without significant radiation into the legs for many years. On July 12, 1957, an