AN UNUSUAL COMPLICATION AFTER STELLATE GANGLION BLOCK

A Case Report

BY

FLORELLA MAGORA

Department of Anaesthetics, Hadassah University Hospital, Jerusalem, Israel

SUMMARY

A case of inadvertent subarachnoid block, following a unilateral stellate ganglion block by the anterior approach, is presented. The accidental penetration of the subarachnoid space was due to sudden movement of the patient during performance of the block.

Inadvertent subarachnoid injection has been described as one of the rare complications of stellate ganglion block (Bonica, 1953; Moore, 1954; Orkin, Papper and Rovenstine, 1950). It may occur either by entering the spinal canal or by injection through an abnormally elongated dural cuff extending beyond the intervertebral foramen. Although mentioned in the literature, there are only a few detailed reports of a stellate ganglion block complicated by subarachnoid injection (Orkin, Papper and Rovenstine, 1950). The following case, therefore, was considered of interest.

Case report.

A 62-year-old woman had suffered from tinnitus in the left ear for four months. She also complained of pain in both shoulders, particularly in the left one. Pain was more severe at night and increased on hyperextension of the arm. Ear, nose, and dental examination revealed no abnormal findings. Degenerative spondylosis of the cervical spine and bilateral arthritis of the first costovertebral joint were found on radiography. No clinical improvement was seen after treatment by cervical spine traction. She was then referred to the Department of Anaesthetics for stellate ganglion block.

The patient was a small thin woman, weighing 45 kg, blood pressure was 140/70 mm Hg. Lung and cardiovascular examinations were normal. Laboratory investigations were normal except for high blood cholesterol—426 mg per cent. The stellate ganglion was blocked every two days by the paratracheal approach. Ten ml of 1.5 per cent lignocaine hydrochloride was injected each time, with the patient in a supine position. A total of eight blocks (six on the left and two on the right side) were performed. After each injection there was a marked improvement. By the end of the course of the treatment, the pain was almost non-existent and the tinnitus of the left ear had disappeared completely.

Eight months later, the patient returned because of severe pain and pronounced limitation of motion in the left shoulder. Since last seen by us she had been on a diet to reduce the blood cholesterol and had lost 3 kg. Treatment with stellate ganglion blocks was resumed on the left side. The patient received four injections of 10 ml of 1.5 per cent lignocaine hydrochloride, again by the paratracheal approach. Pain disappeared at rest and was mild on hyperextension of the shoulder.

While the fifth stellate ganglion block was being performed, the patient suddenly took a deep breath and swallowed. At this time the anaesthetic solution was being injected slowly but continuously. The needle, which had been displaced during the swallowing, was withdrawn and replaced on the VIIth transverse process and the rest of the solution injected slowly. At the end of the injection the patient reported that she had felt paraesthesiae of the left arm during injection. On attempting to sit up, 3–4 minutes after completion of the block, the patient felt dizzy, nauseated, and became pale. She was immediately restored to the supine position. She was fully conscious, the blood pressure was 90/70 mm Hg, pulse 60 regular, respiration adequate, and the pupils were myotic. There was no perspiration, the hands were warm.

The patient felt much better while lying down and the blood pressure rose immediately to 100/70 mm Hg. At this time she complained of loss of sensation in both hands with complete motor paralysis of the contralateral (right) arm.

Forty-five minutes later, sensation gradually started to return and there was no need for further care. While seated, the blood pressure was 130/85 mm Hg, pulse 80 beats/min and regular; after an additional 30 minutes of observation, the patient went home feeling perfectly well.

Observations.

The patient had received twelve previous blocks with the same material, from the same factory, in the same quantity and concentration. For that reason it was considered by us unlikely that toxicity or hypersensitivity was the cause of the patient's complaints. Later, when bilateral sensory and motor disorders appeared, it was clear that we had inadvertently penetrated the subarachnoid
space. Unilateral sensorimotor loss in the hand may be due to overflow of anaesthetic material on to the brachial plexus.

It is probable that the paralysis was limited and the shock mild because of the small quantity of material injected into the subarachnoid space.

We have presented this case in order to stress again the danger of inadvertent subarachnoid block during stellate ganglion block by the anterior approach. In spite of the easy technique and relative lack of serious complications, special care should be taken to warn the patient that coughing, swallowing or deep breathing should be avoided while receiving the block.

Should this occur it is imperative to stop injecting the drug and replace the needle, otherwise chances of complications are high.

REFERENCES
