Continuous Stellate Ganglion Block

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Case Report

A 39 year old white woman with a two year history of Raynaud's disease was admitted to the hospital with the chief complaint of pain in both feet and hands and cyanosis of the hands, aggravated by cold temperatures. For one week prior to admission she had had severe pain in the second digit of the left hand associated with cyanosis and unrelieved by warm water. Admission complete blood count, urinalysis, chest roentgenogram, and electrocardiogram were within normal limits.

On the day of admission a left axillary block was performed under 50 ml. of 0.5 per cent lidocaine She obtained immediate symptomatic relief which lasted over the next forty-eight hours.

On the fifth hospital day she was referred to the Anesthesiology Service for a series of therapeutic nerve blocks. One axillary and two stellate ganglion blocks were performed over the next three days. Each block was followed by marked pain relief and the color of the left index finger changed from cyanotic to pink; this improvement lasting approximately eight hours each time.

In view of the subjective response and objective improvement it was decided to attempt a continuous, stellate ganglion blockade which was performed with a medium-sized Intracath using 10 ml. of 1.0 per cent mepivicaine. The catheter was positioned over the transverse process of the sixth cervical vertebra and fixed to the overlying skin with a silk suture. She again reported pain relief and improvement in the color of the left index finger was noted, as with previous blocks. Injection of 8.0 ml. of 1.0 per cent mepivacaine and 2.0 ml of 1.0 per cent tetracaine every eight to twelve hours afforded the patient continuous relief for a period of five days, at which time the catheter became occluded and was removed. There were no residual problems locally attributable to the presence of the catheter. The patient was ambulatory during this five day period.

One week later she underwent a left thoracotomy and dorsal sympathectomy. Her postoperative course was uneventful and she continued to report pain relief in the left hand and index finger. She was discharged from the hospital on the twelfth postoperative day.

Comment

To our knowledge the use of continuous catheter stellate ganglion block has been relatively untried, although there are favorable reports in the recent literature describing continuous intercostal nerve block in the management of postoperative pain.[1] The use of continuous catheter epidural block in the management of peripheral vascular disease is well known. In principle, then, the use of continuous catheter block would seem sound at a number of sites, and, in fact, the ready availability of plastic needles and Intracaths has made continuous nerve block techniques practical.

It was feared that the anatomical position of the stellate ganglion and its proximity to major vascular structures in the neck might make continuous catheter stellate block hazardous, and that free movement of the head and neck might render the catheter position unstable. However, we observed no difficulty in maintaining the catheter's position for a period of five days in an ambulatory patient.

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The opinions or assertions contained herein are those of the author and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

Reference

1. Ablondi, M. A., Ryan, J. F., O'Connell, C. T., and Haley, R. W.: Continuous intercostal nerve blocks for post-operative pain relief, Anesth. Analg. **45**: 185, 1966.

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