

Letters

Stellate ganglion "blocks" with morphine in sympathetic type pain

SIR,—Since Leriche's¹ first use of sympathetic blocks in causalgia, several theories have emerged to explain the pain relief obtained in these states. Recently² it has been suggested that sympathetic blocks would account for a temporary decrease in the peripheral action of noradrenaline, with secondary more permanent central changes. This may not be the actual or sole explanation for the pain relief. We would like to report our experience with stellate ganglion injection using morphine instead of local anaesthetics. The pain relief obtained in this way was unaccompanied by measurable signs of sympathetic blockade, suggesting a different mechanism of action of "sympathetic blocks." Our decision to conduct this experiment was based on recent papers, demonstrating the presence of opiate activity in sympathetic ganglia^{3,4} and the therapeutic use of narcotics in subarachnoid⁵ and epidural injections.⁶

The subjects were 10 adults with upper quadrant (arm or trunk) sympathetic type pain, being treated with stellate ganglion blocks using 7 ml of 2% lidocaine. After appropriate informed consent, they received an injection of 2 mg of morphine sulfate diluted in 7 ml of normal saline (without preservative), around the stellate ganglion. Facial photography after both lidocaine and morphine recorded the eventual

development of a Horner's sign, and skin thermometry registered any changes in both hands. Eight of the ten patients obtained substantial (better than 50%) relief with both the local anaesthetic and morphine, but they all stated that the morphine injection provided more profound pain relief as well as fewer side effects. Pain relief following administration of morphine was achieved without any evidence of sympathetic blockade, in contradistinction to the local anaesthetic injection, which was invariably followed by a Horner's sign and vasomotor changes. None of the patients presented any systemic narcotic effects. Even so, to rule out the possibility of systemic action, three of the patients who had pain relief received on a separate occasion 2 mg of morphine subcutaneously obtaining no improvement. The eight patients who obtained relief with the blocks were given multiple stellate ganglion injections using the same morphine concentration. At the present time, seven of these patients have no or minimal pain, two to eight months after the blocks were completed.

The fact that the pain relief was obtained without any sign of sympathetic blockade is intriguing. It is possible that only a discreet portion of the ganglia (not necessarily linked to sympathetic function) may be selectively modulated by opiate receptor activation.

References

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