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Stellate Ganglion Block: Normal Saline as Placebo

To the Editor:—Haddox and Kettler,¹ in their study, showed that normal saline, when injected in the area of the stellate ganglion, could act as a placebo injection before a stellate ganglion block, as would normally be performed in the classic differential spinal for lower extremity pain.

I believe that two points are worthy of discussion here. First, a sham injection in the neck would be just as effective at not eliciting a sympathetic response as actual injections of saline in the area of the stellate ganglion, as advocated by Haddox and Kettler, without the risks associated with needle insertion and injection into this area. More importantly, differential blocks can be easily performed, in more or less the classical way, for the upper extremities by using a differential epidural technique.

Since all of the sympathetic nerve fibers leave the spinal cord below the T-1 level, by placing an epidural catheter into the upper thoracic epidural space, a differential epidural can be performed. By first injecting with normal saline a placebo injection can be obtained, followed with injections of low concentrations of local anesthetic to block the sympathetic nerves without blocking sensory fibers. This is especially easy, since the

sensory and sympathetic nerves are anatomically, as well as physiologically, separated to these areas. In my experience, 0.5% lidocaine will give a good sympathetic block in most individuals. It is not necessary to proceed beyond this point in the average pain patient but, of course, it is possible to do so, except for pain in the distribution of the cranial nerves. I might also point out that this is a very easy and effective way of providing sympathetic blockade for the upper extremity and head and neck in patients who have altered head and neck anatomy, *e.g.*, after carotid endarterectomies or radical cancer surgery, or in patients who cannot psychologically accept needle injections into the neck.

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REFERENCE

1. Haddox JD, Kettler RE: Stellate ganglion block: Normal saline as placebo. ANESTHESIOLOGY 67:832-834, 1987

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In Reply:—We appreciate the opportunity to respond to Dr. Day's thoughtful comments.

Our purpose was not to show the technique that we described as superior to a sham injection, but merely to establish the legitimacy of a normal saline stellate ganglion block. The sham injection may or may not be better; however, it might be less than desirable in a medically sophisticated patient. Then, it would be more appropriate to approximate the correct technique as closely as possible. Within the limitations we mentioned, we feel that our study supports this.

Likewise, our purpose was not to assert that stellate ganglion block is a better technique than a differential epidural. However, the technique of differential epidural blockade has problems associated with it.

1. In view of Urban and McKain's study of intrathecal normal saline,¹ the question of whether or not epi-

dural normal saline is a placebo should be answered. To our knowledge, it has not been.

2. It is true that the sensory fibers that originate more cephalad than T1 and the preganglionic sympathetic fibers are separate anatomically. However, solutions injected into the epidural space can spread more extensively than the practitioner intended and confound the results of the procedure. Obviously, this can occur with stellate ganglion block as well. A given patient may develop some sensory block with dilute solutions of local anesthetic—even 0.5% lidocaine. Rather than assuming that a given technique or agent will assure differential blockade, the patient must be evaluated for objective evidence of differential block.^{2,3}

3. With an epidural block, the contralateral extremity cannot be used as a control as it could in a stellate ganglion block.