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Fewer Failed Spinal Anesthetics with the Sprotte Needle

To the Editor:—In a recent letter,[1] Crone and Vogel suggested that there is an increase in the failure rate of spinal anesthetics using the Sprotte needle. We do not agree with the authors. We have indeed published results of the controlled prospective study[2] that Crone and Vogel say is necessary, but unfortunately the paper is written in German. We studied 500 patients undergoing operations on the lower extremities who received spinal anesthesia using either the 24-G Sprotte needle or the 25-G Quincke needle. Puncture characteristics were evaluated by a four-point scale (1 = easy, 2 = difficult, 3 = very difficult, 4 = impossible). A "failed technique" was defined as the lack of acceptable anesthesia for the proposed surgical procedure, following the injection of local anesthetic after free-flow cerebrospinal fluid was identified, as mentioned in the letter by Crone and Vogel. In addition, the incidence of post-dural puncture headache was evaluated in a double-blind fashion.

There were no differences between the two groups concerning age, sex, and the type of local anesthetic agent used. The puncture characteristics were assessed to be significantly better using the Sprotte needle ($P < 0.005$, Mantel-Haenszel test). In 243 patients (Sprotte needle) and 244 patients (Quincke needle), injections of local anesthetic agent could be performed after free-flow of cerebrospinal fluid was identified. Using the Sprotte needle, 4 of 243 (1.6%) anesthetics had to be classified as a failure compared to 19 of 244 (7.8%) using the Quincke needle ($P < 0.005$, chi-square test). Taking the type of local anesthetic agent used into account, the relationship remained the same: mepivacaine 4% hyperbaric 3 of 135 (Sprotte) *versus* 14 of 127 (Quincke), bupivacaine 0.5% hyperbaric 1 of 92 (Sprotte) *versus* 5 of 90 (Quincke). One reason for the higher incidence of failure rate in the Quincke needle group might be the deflection of a beveled needle away from the midline.[3,4] In our study we always entered the dura with the bevel parallel to its fibers, which could lead to an unequal distribution of the anesthetic. With respect to the incidence of post-dural puncture headache, we did not find any difference between the two types of needles (Sprotte 8.2% *vs.* Quincke 7.8%).

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In Reply:—Buettner *et al.* address pertinent issues with regard to the use and benefits of the Sprotte spinal needle. The advantage of this needle is clearly related to the decreased incidence of post-dural puncture headache. However, their studies do not support our suggestion of an increased incidence of failed spinal anesthesia. Identification of free-flow cerebrospinal fluid, a prerequesite of our study design, ensured proper placement of the needle. The reason for the discrepancy in the results of our two studies is unclear. Cesarini *et al.*'s[1] approach is to advance the needle 1–2 mm following identification of cerebrospinal fluid. It would be of interest to document the incidence, if any, of paresthesias experienced with "needle advancement" once cerebrospinal fluid has been identified, which was not documented in either of the above studies. A controlled prospective study is now in progress at our institution to assess the incidence of paresthesias, failed spinal anesthesia, needle damage, and post-dural puncture headaches.

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Adverse Outcomes and the Multicenter Study of General Anesthesia: I

To the Editor:—Forrest and colleagues[1] should be congratulated for their large, randomized, prospective clinical study in which they evaluated multiple independent predictors of severe perioperative adverse outcomes. However, there seems to be discrepancy between the text and the logistic coefficients presented in table 1. The article reports that obesity, smoking, and male gender all were predictors for severe