Spinal anesthesia and direction of spinal needle bevel

Sir,
We read with interest the article “Subarachnoid space needle manipulations for a successful block”\cite{1} that prompted us to mention another misguided needle manipulation with regard to Quincke spinal needle.

Of the several factors that determine the spread of local anesthetic (LA) solutions in the cerebrospinal fluid (CSF), the direction in which the bevel of the lumbar puncture needle faces is one such factor. It is not uncommon to observe resident anesthesiologists performing the subarachnoid block to rotate the spinal needle (after obtaining CSF flow) such that the bevel faces cephalad. The purpose of the rotation is to direct the LA stream cephalad for greater spread. However, the direction in which the bevel of a Quincke needle (often used in our setup) faces does not influence the distribution of LA solution in CSF.\cite{2} The terminal lumen of Quincke needle lies in the same axis as the lumen of the shaft of the needle. A liquid injected through such a needle exits from the needle in the same straight line formed by the lumen of the needle throughout its length.\cite{3} This can be easily demonstrated by injecting any solution in the air through a Quincke needle. It will be observed that the exit stream goes in the same straight line regardless of the direction in which the bevel faces. In contrast, the orientation of the orifice of Whitacre or Tuohy needle influences the direction in which an injected solution exits from the needle; the exit stream leaves at an angle of 55° to the Whitacre needle plane\cite{4} and at a 45° angle with Tuohy needle.\cite{3} Thus, orifice direction of both these needles affects the distribution of LA solution in the CSF.

In conclusion, during performance of a subarachnoid block the bevel of a Quincke needle may be rotated to obtain an
improved flow of CSF or to ensure that CSF flow is obtained with the bevel in each of the four directions, but not with the view to influence the direction of exit of LA solution.

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