Subcutaneous tunnelling of interscalene catheters

To the Editor:

I read with interest the interscalene catheter tunnelling technique suggested by Drs. Ekatodromis and Borgeat.[1] I also use an intravenous cannula for catheter tunnelling but my technique keeps the catheter completely subcutaneous until it emerges above the clavicle, unlike the above technique, which appears to involve the emergence of the catheter onto the skin for a few millimetres before it is tunnelled. As Winnie commented: "With the interscalene technique, the catheter is at right angles to the… skin, so that movement of the head or shoulders tends to advance or withdraw the catheter".[2] I use the following technique.

Before inserting the interscalene catheter, a 2–3 mm skin incision is made. The catheter is then inserted through this incision. An 18G intravenous cannula needle is inserted alongside the catheter and is advanced subcutaneously to a point just above the clavicle. It is then pushed outwards through the skin (Figure 1a). The intravenous cannula is passed backwards over the needle and the two are withdrawn together, allowing the end of the cannula to emerge through the skin incision (Figure 1b). The catheter is then passed through the cannula (Figure 1c), which is removed. The result is a fully tunnelled catheter. The skin incision is closed with a Steristrip™.

On a slightly peevish note: if Dr. Borgeat wishes to quote an earlier publication than his[3] that introduces the concept of patient-controlled interscalene analgesia, he need look no further than mine,[4] which was published three months before his. Great minds think alike!

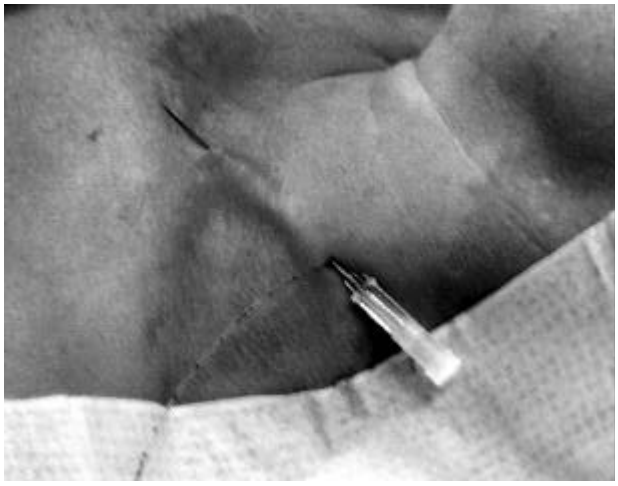

FIGURE 1A

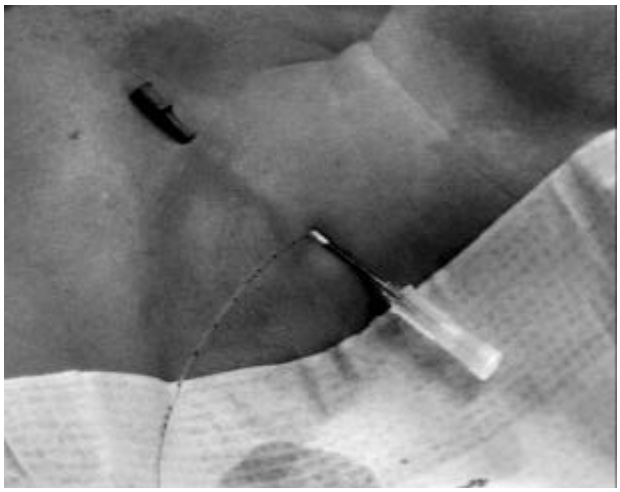

FIGURE 1B

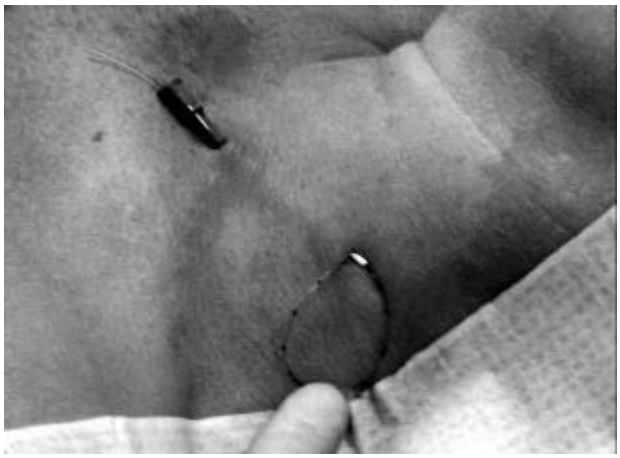

FIGURE 1C

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1 *Ekatodromis G, Borgeat A*. Subcutaneous tunneling of the interscalene catheter (Letter). Can J Anesth 2000; 47: 716–7.

2 *Winnie AP*. Plexus Anesthesia Volume I. Perivascular Techniques of Brachial Plexus Block. Philadelphia: W B Saunders, 1983: 214.

3 *Borgeat A, Schnappi B, Biasca N, Gerber C.* Patient-controlled analgesia after major shoulder surgery. Patient-controlled interscalene analgesia versus patient-controlled analgesia. Anesthesiology 1997; 87: 1343–7.
4 *Lucas MA, Harrop-Griffiths AW.* Interscalene patient-controlled analgesia. Anaesthesia 1997; 52: 263–4.

REPLY:

We thank Dr. Harrop-Griffiths for the interest shown in our subcutaneous interscalene catheter tunnelling technique and congratulate him for both being a pioneer in the patient-controlled interscalene analgesia technique[1] and for looking for new ways to secure the interscalene catheter.[2] In our communication[3] we omitted to describe the interscalene placement technique used. We do not use the approach described by Winnie[4] anymore, but use the lateral modified technique, which consists in directing the needle in the plane of the interscalene space – there is no interscalene sheath. The direction of the needle, contrary to Winnie, is caudal and slightly either lateral, or medial, according to the anatomy. With this technique we, therefore, avoid the problem of having the catheter at a right angle. We now have placed more than 250 catheters without one dislocation. The technique discussed by Dr. Harrop-Griffiths has only one disadvantage in that he performs a skin incision with a scalpel blade which can always be associated with scar formation. We apologise for not having mentioned the significant work of Dr. Harrop-Griffiths in this field, but this was because his paper dealt with only one case. But obviously, great minds do indeed think alike!

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2 *Boezaart AP, de Beer JF, du Toit C, van Rooyen KA* A new technique of continuous interscalene nerve block. Can J Anesth 1999; 46: 275–81.
3 *Ekatodramis G, Borgeat A* Subcutaneous tunnelling of the interscalene catheter (Letter). Can J Anesth 2000; 47: 716–7.
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Postoperative bronchospasm in a patient with Parkinson's disease

To the Editor:

We recently anesthetized a 50-yr-old, 55 kg, male nonsmoker with Parkinson's disease receiving 125 mg levodopa and 12.5 mg carbidopa six hourly. He had bilateral abductor cord palsy for which laser arytenoidectomy was planned. A tracheostomy was done one month before this admission for an acute episode of breathlessness. Patients with Parkinson's disease are known to have vocal cord paralysis and laryngeal spasm.[1,2]

Preoperative arterial blood gas analysis, breathing air, showed pH 7.41, PCO_2 42 mmHg, PO_2 65 mmHg, HCO_3 26 $mmol \cdot l^{-1}$ and SaO_2 93%. The patient received his medication on the morning of surgery and was given propofol-nitrous oxide-atracurium anesthesia. There were no signs of respiratory obstruction intraoperatively. About 10 min after 0.6 mg glycopyrrolate and 2.5 mg neostigmine *iv*, SaO_2 was 85% breathing air and there were bilateral rhonchi on auscultation of chest. There were no secretions or aspirate on endotracheal suction. He was given 4 $L \cdot min^{-1}$ oxygen, hydrocortisone and aminophylline *iv* after which rhonchi persisted and SaO_2 was 92%. Salbutamol nebulisation and subcutaneous terbutaline improved SaO_2 to 96% on 2 $L \cdot min^{-1}$ oxygen and 93% to 94% on room air.

Glycopyrrolate offers protection against neostigmine induced bronchoconstriction in normal subjects.[3] Patients with Parkinson's disease have obstructive dysfunction probably caused by parasympathetic hyperactivity.[4] Parasympathetic hyperactivity may make them susceptible to the muscarinic effects of neostigmine and probably caused the postoperative bronchospasm in our patient. The adequacy of glycopyrrolate in protecting against muscarinic effects of neostigmine in patients with Parkinson's disease deserves further study.

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