pulmonary resection.⁶ The safety of this method used for five days is demonstrated in our experience of over 800 patients.

Jibah Eng FRCS FICA
Sabaratham Sabanathan DM FRCS FICA
Department of Thoracic Surgery
Bradford Royal Infirmary
Duckworth Lane
Bradford BD9 6RJ
England

REFERENCES

- 1 Eng J, Sabanathan S. Site of action of continuous extrapleural intercostal nerve block. *Ann Thorac Surg* 1991; 51: 387-9.
- 2 Berrisford RG, Sabanathan S. Direct access to the paravertebral space at thoracotomy. *Ann Thorac Surg* 1990; 49: 854.
- 3 Mozell EJ, Sabanathan S, Mearns AJ, Bickford Smith PR, Majid MR, Zografos G. Continuous extrapleural intercostal nerve block after pleurectomy. *Thorax* 1991; 46: 21-4.
- 4 Sabanathan S, Bickford Smith PJ, Pradhan GN, Hashimi H, Eng J, Mearns AJ. Continuous intercostal nerve block for pain relief after thoracotomy. *Ann Thorac Surg* 1988; 46: 425-6.
- 5 Sabanathan S, Mearns AJ, Bickford Smith PJ, et al. Efficacy of continuous extrapleural intercostal nerve block on post-thoracotomy pain and pulmonary mechanics. *Br J Surg* 1990; 77: 221-5.
- 6 Berrisford RG, Sabanathan S, Mearns AJ, Bickford Smith PJ. Pulmonary complications after lung resection: the effect of continuous extrapleural intercostal nerve block. *Eur J Cardiothorac Surg* 1990; 4: 407-11.

REPLY

We thank Drs. Eng and Sabanathan for their comments on our paper. The technique of continuous intercostal nerve block described in our study was based on the findings that an injected bolus of local anaesthetic in large volume into a single intercostal space can spread to and achieve anaesthesia in multiple adjacent intercostal levels.¹⁻³ We assume that our technique would have a similar target site of anaesthetic activity as the conventional intercostal nerve block approach since the landmark for needle and subsequent catheter insertion, i.e., 7-8 cm from the posterior midline, was similar. The major difference from the conventional method is that by inserting two indwelling catheters, repeated local anaesthetic injections may continue to block peripheral intercostal nerves without the unpleasant experience of multiple needle punctures.

As clearly demonstrated, the technique of continuous extrapleural "intercostal" nerve block used by Drs. Eng and Sabanathan is quite different from ours in that the indwelling catheter is placed in the paravertebral space under direct vision.⁴⁻⁵ Local anaesthetic deposited in this region will block not only intercos-

tal nerves, but also posterior primary rami. In our opinion, this method is more appropriately named continuous extrapleural "paravertebral" nerve block since the site and mechanism of action would be similar to that of conventional paravertebral nerve block. With this direct approach to the paravertebral space, it is likely that potential risks of dural puncture, postural headache and inadvertent subarachnoid injection would be minimized.

Despite major differences in the mechanisms of action, there are similarities between the technique of Eng and Sabanathan and that of ours. In both cases, the common goal is to achieve the desired block with a direct approach, not blindly. Under direct vision, catheters are more likely inserted successfully with the least amount of trauma and a higher degree of accuracy.

Vincent Chan MD FRCPC
Frances Chung MD FRCPC
Toronto Western Division
The Toronto Hospital
University of Toronto

REFERENCES

- 1 Murphy DF. Continuous intercostal nerve blockade: an anatomical study to elucidate its mode of action. *Br J Anaesth* 1984; 56: 627-9.
- 2 O'Kelly E, Garry B. Continuous pain relief for multiple fractured ribs. *Br J Anaesth* 1981; 53: 989-91.
- 3 Murphy DF. Continuous intercostal nerve blockade for pain relief following cholecystectomy. *Br J Anaesth* 1983; 55: 521-4.
- 4 Eng J, Sabanathan S. Site of action of continuous extrapleural intercostal nerve block. *Ann Thorac Surg* 1991; 51: 387-9.
- 5 Berrisford RG, Sabanathan S. Direct access to the paravertebral space at thoracotomy. *Ann Thorac Surg* 1990; 49: 854.

Tumour invasion of the brachial plexus: management of pain with intrapleural analgesia

To the Editor:

I would like to present a case that illustrates a different use of intrapleural analgesia in a cancer pain patient. This elderly man presented to our department with intractable pain caused by metastatic invasion of his left brachial plexus, from an adenocarcinoma of the palate. He had not responded to radiotherapy, and was experiencing severe pain (VAS 7), poorly controlled with MS-Contin, MOS, and carbamazepine. He was also having side effects from this regimen.

It was decided to treat the patient with sympathetic blockade of the cervical and upper extremity area to rule out any sympathetically maintained pain. Because of metastasis in the anterior cervical triangle, a stellate ganglion block was deemed contraindicated. We elected to