

subcutaneously using a 25-gauge needle alongside the epidural catheter. The epidural catheter was removed an hour later without further complications.

We prefer to leave the epidural catheter in place during persistent bleeding from the epidural site. The catheter may tamponade the punctured vessel and help to identify the site of the traumatized vessel. We do not think it is necessary to expose the patient to new complications from reestablished epidural block.

The increase in tissue blood flow during pregnancy,<sup>2</sup> along with the sympathetic blockade from local anaesthetic skin infiltration and field block,<sup>3</sup> may facilitate the piercing of a blood vessel before inserting a Tuohy needle into the epidural space. We have noticed that this bleeding is self-limited except in this instance, in which prolonged bleeding was noticed despite normal coagulation function. In this patient bleeding time was normal five days after discontinuation of aspirin. In volunteers bleeding time returns to baseline by the third day after intake of 600 mg aspirin.<sup>4</sup>

Adrenaline is a potent vasoconstrictor that is used for reduction of bleeding in a variety of surgical procedures. Systemic absorption of adrenaline may reduce uteroplacental perfusion,<sup>5</sup> and may make uterine contractions irregular.<sup>6</sup> Therefore we recommend continuous pressure on the epidural site during labour and adrenaline injections along the epidural catheter after delivery. Should bleeding continue and labour be prolonged, a suture may be placed around the catheter as recommended by Dr. Ananthanarayan.<sup>1</sup>

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## Combined spinal-epidural needle

## REPLY

In the September 1988 issue of the *Canadian Journal of Anaesthesia*, Eldor and Chaimsky<sup>1</sup> described a needle with two conduits that can be used to perform subarachnoid and epidural injection of local anaesthetics simultaneously to produce either spinal or epidural anaesthesia, respectively.

We had published earlier a very similar version of a dual needle with a similar design and for the same purpose.<sup>2</sup> It appears that the concept has been grasped all over the world. Therefore, we expect the description of the devices and experience acquired with them will follow.

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## PORCH test

To the Editor

I read with interest Dr. Vaghadia's article on Evaluation of a postocclusive reactive circulatory hyperaemia (PORCH) test for the assessment of ulnar collateral circulation.<sup>1</sup> I would like to outline another such test that I have not seen described in the literature.

Since the objective is to ensure adequate perfusion to the digits even with occlusion of the radial artery, a logical desirable test would involve direct measurement of the end-point. A pulse oximeter attached to one of the fingers before and after occlusion of the radial artery will achieve this. I have observed in young patients (<30 years of age) that with occlusion of the radial artery with finger pressure, there is hardly a pause in the readings of the pulse oximeter, suggesting immediate and adequate collateral circulation. In other patient groups, there is sometimes a pause of from three to eight beats before the oximeter picks up a digital saturation reading again. The strength of the post-occlusion pulse reading and the actual