

lidocaine intradermally to help discriminate between methylparaben and lidocaine-induced anaphylactoid reactions. Although drug companies have recently tried to produce injectates without adding preservative, many agents used during anaesthesia still contain preservatives. For example, in Japan solutions of fentanyl, lidocaine, droperidol and hydrocortisone contain methylparaben as a preservative.\* Therefore, we must consider preservatives as a potential causative factor of drug-induced anaphylactoid reactions during anaesthesia.

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\*Bennett *et al.* have advised that the fentanyl administered to their patient was free of preservatives. (personal communication).

#### REFERENCES

- 1 Bennett MJ, Anderson LK, McMillan JC, Ebertz JM, Hanifin JM, Hirshman CA. Anaphylactic reaction during anaesthesia associated with positive intradermal skin test to fentanyl. *Can Anaesth Soc J* 1986; 33: 75-8.
- 2 Stoelting RK. Allergic reactions during anaesthesia. *Anesth Analg* 1983; 62: 341-56.
- 3 Moudgil GC. Anaesthesia and allergic drug reaction. *Can Anaesth Soc J* 1986; 33: 400-14.
- 4 Swanson JG. Assessment of allergy to local anaesthetics. *Ann Emerg Med* 1983; 12: 316-8.

### *Flexion deformity of metacarpo-phalangeal joint following extravasation of thiopentone*

To the Editor:

A flexion deformity of the metacarpo-phalangeal joint, caused by extravasation of thiopentone into the interossei muscles and around the joint, has not previously been reported<sup>1</sup>.

A twenty-six-year-old woman presented with



FIGURE Demonstration under anaesthesia of range of movement at the proximal and distal interphalangeal joints.

pain and inability to straighten her left ring and little fingers because of a joint deformity. About six weeks earlier she had had a general anaesthetic, during which she received thiopentone 2.5 per cent, injected directly into a superficial vein near a knuckle. At that time she had felt no pain and no extravasation had been noted. After the anaesthetic, she found her left fourth and fifth fingers to be bent at the joints, and she was unable to straighten them. The hand was swollen and painful and the deformity followed in about six weeks.

Examination revealed tenderness over the metacarpo-phalangeal joint of the left ring finger, with a 70- to 80-degree flexion movement of that joint. The proximal interphalangeal joint had a movement range of 0 to 70 degrees. The distal interphalangeal joint was normal. The little finger movement was not limited but was painful. Examination under general anaesthesia showed an intrinsic contracture of the left ring finger, with tightness of the middle and little fingers but without contractures (Figure).

A Littler's release was done after exploration via dorsal incisions on either side of the ring finger. A triangular flap of oblique ligament was excised on both sides of the ring finger, preserving the transverse ligament. Through the same incision the radial side of the oblique ligament of the little finger was excised. The ring and little fingers assumed normal resting positions after the release.

Adhesions of the volar plate and of the oblique ligaments had occurred; the fibrosis and contracture, plus shortening of the interossei muscles had contributed to the flexion deformity.

Because of the small extravasated volume there had been no immediate swelling or pain; nevertheless inflammation, fibrosis and adhesions occurred. Thiopentone, with its alkaline pH (10.4), is an irritant but sequelae are reduced if the concentration is 2.5 per cent.<sup>2</sup> However, in this patient, a small volume of 2.5 per cent thiopentone produced this complication. Ulceration and sloughing of tissues following extravasation is not unknown, even at this concentration.<sup>3</sup> It normally takes about ten to 12 weeks for fibrosis and contractures to be complete after the initial inflammation. In this case these complications appeared in about six weeks.

Direct intravenous injection of thiopentone, without a running infusion, should be discouraged. In the back of the hand, a favourite site for infusions, the chosen tributary should be away from the carpal or metacarpo-phalangeal joints. If extravasation occurs, analgesics, local hyaluronidase infiltration, cold compresses and elevation of the limb will reduce the pain and swelling. Follow-up for at least 12 weeks is necessary in order to detect late complications.

Thiopentone is the most widely used induction agent. It is surprising how infrequently its local complications occur or are reported.

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#### REFERENCES

- 1 *Davies DD*. Local complications of thiopentone injection. *Br J Anaesth* 1966; 38: 530.
- 2 *Smith SE*. Intravenous Anaesthesia. In: *A Practice of Anaesthesia*, H.C. Churchill-Davidson (Ed). Lloyd-Luke Medical Books Ltd, 1984.
- 3 *Wood M, Wood AJ*. *Drugs and Anaesthesia*. Williams and Wilkins, Baltimore/London, 1982.

## *Contralateral spread of local anaesthetic solutions*

To the Editor:

We read with interest the letter by Allen and Samson<sup>1</sup> on the occurrence of a contralateral Horner's sign during a stellate ganglion block. The authors postulate that the local anaesthetic injection somehow spread to the opposite side.

We believe that under unusual circumstances local anaesthetics may spread to the opposite side during sympathetic blocks. The Figure shows a small amount of radiographic contrast on the contralateral side of a man who had a surgical sympathectomy 17 years before this lumbar sympathetic block was performed. The post-surgical changes could account for this abnormal tracking of

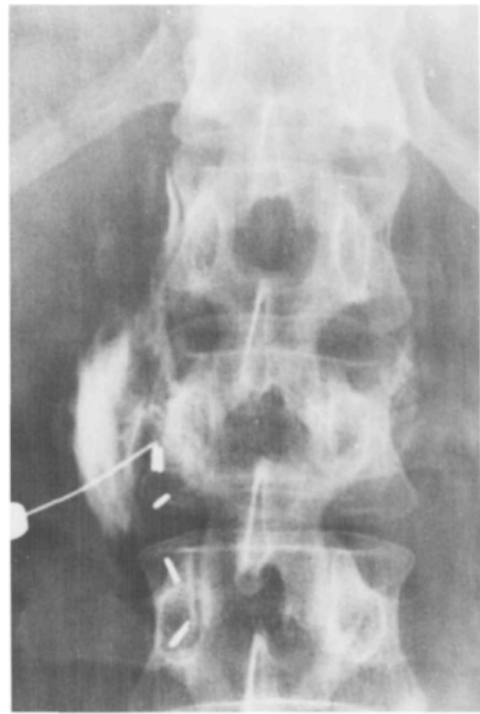


FIGURE Demonstration of contralateral spread of contrast medium injected during conduct of right lumbar sympathetic block.