LIGNOCAINE has as yet been very little used for spinal anaesthesia, Adams (1956) alone having reported a series of cases in this country. This is probably because at the present time general anaesthesia is the rule and there is little interest in finding a better spinal analgesic.

Having been very impressed by a sample of 5 per cent hyperbaric lignocaine (Xylocaine), it was decided to attempt a controlled comparison with 1:200 cinchocaine (Nupercaine) in order to assess its potency. Preliminary trials with 1 per cent and 2½ per cent solutions had not proved rewarding.

**METHOD**

Thirty unselected male cases of bilateral inguinal hernia, aged from 26 to 65 years (mean 50 years), were operated upon under spinal anaesthesia by the same surgeon and anaesthetist in the same theatre, the first side being done under 5 per cent lignocaine (sp. gr. 1018) and the second, a week later, under 1:200 cinchocaine (sp. gr. 1024).

Premedication was with papaveretum 20 mg and hyoscine 0.4 mg given 1½ hours pre-operatively, those over 60 years of age receiving morphia 10 mg and atropine 0.6 mg 1 hour pre-operatively.

The patient was placed in the lateral position on the operating table in the anaesthetic room, lying on the side to be operated upon. The table was tilted so as to give the vertebral column a definite cephalic tilt from the horizontal. Lumbar puncture was performed in the third lumbar space and 1.5 ml of the selected drug was injected slowly through a 22 gauge needle. On completion of the injection the patient was immediately turned on to his back and the thighs flexed on the abdomen for about 1 minute, whilst 15 mg of methylamphetamine were injected both intravenously and intramuscularly. The patient, having been blindfolded was asked to raise his legs, and only if there was no paralysis was a sensory test made before wheeling him into the theatre.

During towelling up his reactions to the insertion of the towel clips just above the operative field were watched. Patients were questioned about sensations during the various procedures such as skin incision, muscular, cord and sac traction, but no sensory levels were tested until the operation had been completed, when the degree of paralysis of the legs was also assessed.

**RESULTS**

The height of anaesthesia produced by lignocaine and cinchocaine respectively is shown in the diagram. Each of the 30 cases is represented by a pair of lines, the continuous line representing the action of lignocaine and the interrupted one that of cinchocaine. The upper limit of each line represents the level below which there was anaesthesia to pinprick and the lower limit of each line the level below which the sense of touch was eliminated.

The sense of touch was abolished in 28 out of 30 cases with lignocaine as against only 10 with cinchocaine, whilst with lignocaine it was frequently abolished as high as the operative field.

Lignocaine produced analgesia and the abolition of the sense of touch about two and four segments of the cord respectively higher than did cinchocaine. This was probably due to the diffusion of lignocaine in effective concentration to a higher level than that of cinchocaine.

In those cases in which the sense of touch was abolished in the operative field traction could still be felt, though not localized.

An unpleasant “wooden” numbness was complained of by 5 patients who had lignocaine.

The duration of anaesthesia and paralysis was
similar with the two drugs, but the onset of paralysis was much more rapid with lignocaine.

Paralysis of the legs was complete in 29 cases with lignocaine as against only 13 with cinchocaine.

In the series 18 patients preferred lignocaine, 4 cinchocaine and 8 were indifferent.

There was only one case of headache and this occurred with both lignocaine and cinchocaine.

CONCLUSIONS

From these observations it would seem likely that 5 per cent lignocaine is a more potent spinal anaesthetic than 1:200 cinchocaine and in many cases eliminates the sense of touch. It produces anaesthesia to a higher level by means of diffusion.

The only disadvantage encountered with lignocaine was an unpleasant “wooden” numbness which was complained of by 5 in the series of 30 cases.

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REFERENCE