

## LOW SPINAL ANALGESIA BY XYLOCAINE

A. Hai-khan, F. R. C. S.,

Anaesthesia has made such a rapid progress over the last few years that the term 'spinal analgesia' sounds a little out of date. Modern concepts and techniques of gas-oxygen anaesthesia, introduction of muscle relaxants and threat to anaesthetists of litigation which may result due to accidents of spinals, have contributed to a considerable regression of spinal analgesia. Yet spinal analgesia by 5% xylocain has met the requirements of a number of surgical procedures in the following small series.

### MATERIALS AND METHOD

Sixty cases of different age, ranging from fourteen years to that of sixty one, were operated by low spinal analgesia for a variety of conditions ( Table I ), during the year 2025-2026 in my surgical unit at Birganj Zonal Hospital. Cases suffering from dehydration, myocardial disease, severe anaemia, increased intracranial pressure, extensive lung disease or gross abdominal distension ( Full term pregnancy, Tumour ) were not selected for spinal analgesia.

TABLE I

| Operations                           | Number | Percent |
|--------------------------------------|--------|---------|
| Inguinal Herniae                     | 20     | 33.3%   |
| Hydroceles                           | 18     | 30.0%   |
| Fistulae and Haemorrhoids            | 12     | 20.0%   |
| Urethral Dilatation and cystoscopies | 3      | 5.0%    |
| Appendicectomies                     | 2      | 3.3%    |
| Orchidectomies                       | 2      | 3.3%    |
| Amputation of penis (Total)          | 1      | 1.6%    |
| Osteomyelitis                        | 2      | 3.3%    |

On each occasion, the instruments required for the lumbar puncture and an ampoule of 5% xylocain (2 ml) along with a small saw for opening the ampoule, all adequately autoclaved, were set in a properly sterilized E. I. rectangular tray with a cover. This tray was kept separate from the main instrument trolley.

The patient was brought inside the theatre fully assured that a small prick in the back will make him free from the pain of the operation. The blood pressure was recorded. The nurse and the surgeon scrubbed and put on the gowns and gloves. The nurse went on organising the instrument trolley, putting the blade on the knife, catgut into the needle etc. The surgeon approached the spinal tray. The dresser lifted the cover of the tray and the surgeon opened the ampoule of xylocaine and drew the solution in a 2 ml. syringe. In another syringe he took 1.5 ml novocaine 2% for local infiltration. The xylocaine syringe was kept on a piece of gauze on the left hand side of the surgeon and the novocaine on his right hand side.

The syringes were kept on the pieces of gauze to avoid the slipping of the syringe from one side of the tray to the other which might cause splashing of the solution. The right and left hand discipline was followed more to avoid the mistake of giving a wrong solution intrathecally than for the convenience.

The lumbar puncture was done in the standard way by infiltrating novocaine between L4 and L5, with the patient lying on his side. As soon as the cerebrospinal fluid was seen coming down in drops, the xylocaine syringe with an adaptor was fitted in the lumbar needle, and 2 ml. xylocaine solution was injected slowly. The lumbar puncture needle was withdrawn and the dresser was asked to apply tincture benzoin seal. The patient was turned supine. The blood pressure of the patient was checked again and then onwards at every ten minutes duration. An ampoule of methedrine was kept ready for any fall of blood pressure (McNair 1967).

The position of operation table was kept horizontal except for appendicostomies when the head end was lowered by 15 to 20 degrees for five minutes.

The surgeon changed the gloves and operation commenced. The usual timing was set as follows:

- a) At Zero hour—Patient brought in.
- b) Zero to 0.5 —B. P. was checked.
- c) 0.5 to 0.10 —Patient was put on his side,
- d) 0.10 to 0.20 —Xylocaine was given
- e) 0.20 to 0.25 —Operation commenced.

## RESULTS

There was not a single case in which spinal analgesia failed. The spinal analgesia lasted for more than one hour in each case. In 41 cases (68.3%) it lasted for 1 hr. 10 min. (Table 2.). This gave an ample time for the surgical performance. 16 cases (26%) needed 1 to 1.5 ml. of Methedrine to raise the blood pressure. 16% of them suffered from headache. They belonged to the group who by virtue of their restless nature or apprehension, desired to get rid of analgesia by sitting up or making movements in the lower limbs as soon as the operation was over. Retention of urine was common in those cases operated in perineal region for haemorrhoids and fistulae. Chest complication and vomiting was unknown.

TABLE 2

| S. N. | Duration of analgesia | Number of cases | Percent |
|-------|-----------------------|-----------------|---------|
| 1.    | 1 hour 5 minutes      | 3               | 5%      |
| 2.    | 1 hour 10 minutes     | 41              | 68%     |
| 3.    | 1 hour 15 minutes     | 9               | 15%     |
| 4.    | 1 hour 20 minutes     | 7               | 11.6%   |

**DISCUSSION:**

Spinal analgesia consists in blocking of sensory nerve endings ( Das 1955 ) by any anaesthetic novocaine, stovaine, nupercaine ( Biswas 1965 ). Nupercaine is still popular. Specific gravity of Cerebrospinal fluid varies between 1004 to 1010. Light nupercaine ( 1 in 1500 in 0.5 per cent saline S. G. 1003 ) is hypobaric. Heavy nupercaine (1 in 200 in 6 per cent glucose, S. G. 1024) is hyperbaric. Nupercaine in the hands of trained and experienced anaesthetists may very well satisfy the needs of analgesia. But xylocaine 5 per cent solution supplied in 2 ml. ampoules (Astra, Geigy) has been used with success by a surgeon for a variety of surgical conditions. By low spinal analgesia appendicectomies have been performed. Strong (1969) has communicated about performing even straight forward cholecystectomies by xylocaine spinal. On the basis of the experience gained in this series xylocain is simple and safe spinal analgesic and extremely helpful for a single handed surgeon. Though, in anaesthesia to quote from Pryor (1959), it is practically impossible to prove statistically that one technique is better than another, but with time, one gets a 'clinical impression' that one method in one's own hand gives better results than others.

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