CAUDAL BLOCK WITH XYLOCAINE

By J. Clutton-Brock

Caudal block with Xylocaine (w-dimethylamino-2-6-dimethylacetanilide) has been used for a number of lower abdominal operations during the last few months, and whilst the number is far too small for any real assessment of its value, the results so far have been so remarkably successful that it was thought worth while to draw attention to this use of the drug in this preliminary communication.

The disadvantages of caudal block in the past have been, in the author's opinion, the uncertainty of the effect and the delay taken for the analgesia to come on. This, with procaine or amethocaine, was in the order of 20 minutes to half-an-hour. With 2 per cent Xylocaine the following order of times has been found to be usual, but there is considerable variation:

Perineal analgesia — 2 minutes after injection.
Analgesia to the umbilicus — 5 minutes after injection.

To begin with, some of the local analgesic solution was injected under the skin of the lower abdomen after the block was given in order that the surgeon might start the operation at once, but it was very soon found that unless the patient was turned over and prepared very rapidly, the injections were being made into an already analgesic area.

The following operations have been performed under caudal analgesia with Xylocaine:
Retropubic, intravesical and transurethral prostatectomy—17 cases.
Intravesical removal of papilloma of bladder—1 case.
Hysterotomy for severe toxæmia—1 case.
Caesarean section—2 cases.
Fothergill's operation—1 case.
Combined synchronous abdomino-perineal excision of rectum, combined with very light general anaesthesia—3 cases.
Local excision of carcinoma of rectum, combined with very light general anaesthesia—3 cases.
Therapeutic and diagnostic (vascular diseases, white leg, sciatica, etc.)—10 cases.
For deliberate hypotension during ear, nose and throat operations—3 cases.

A caudal block has only been used where it seemed indicated, particularly for the very bad risk cases.

The disadvantages of spinal analgesia in the old and unfit are:

1. The dangers and complications attendant upon the lumbar puncture.
2. Motor blocking, which may extend to the muscles of respiration.
3. The large drop in blood pressure which may attend even quite a low spinal block.

Sarnoff and Arrowood (1946) have pointed out that a much weaker solution of a local analgesic will block the sympathetic fibres than is necessary for sensory block, so that the sympathetic block with spinal analgesia goes to a much higher level than the sensory block owing to the diffusion of the drug in the cerebrospinal fluid.

Caudal analgesia to the xiphisternum has produced only a moderate drop in blood pressure, and even a severe drop in blood pressure produced by analgesia, almost to the clavicle in elderly subjects, has been found to be completely
controlled by small intravenous doses (e.g. 10 mg.) of Methedrine.

The motor block produced has never been more than partial and has never appeared to interfere with respiration. What has impressed the writer most about this form of analgesia is the extremely good condition of the patient undergoing it. It has been used largely in prostatectomy in elderly, sometimes very elderly, and sick patients, and the improved condition of the patient has been remarked upon by the surgeon and ward sister. In one case, an old man of 85, who was prepared for combined synchronous abdomino-perineal excision of the rectum, was given 45 ml. of 2 per cent Xylocaine and the drop in blood pressure controlled with 10 mg. of Methedrine intravenously and 10 mg. intramuscularly. It was found that the growth was locally removable by diathermy excision through the rectum, and so the effect of the high analgesia by itself could be judged. There appeared to be no ill effects whatsoever.

The dosage used has been between 30 and 50 ml. of 2 per cent Xylocaine (plain) with a total of 0.25 to 0.5 ml. of 1 in 1,000 adrenaline added to the solution. There has been a great variation in the height to which the analgesia extends with any given dose and it is probable that larger doses of the drug have been used to begin with than are necessary, but the ill effects have been so slight that the margin of safety is obviously much greater than with spinal analgesia.

The only adverse effect that has been noted, apart from the fall in blood pressure, has been the slight vomiting attendant upon this fall; this has been controlled at once with Methedrine.

The technique of caudal block has been described often,
but the only point worth mentioning perhaps is that in the obese the sacrococcygeal ligament has had to be felt for with a needle, as the bony landmarks were quite impalpable. It was found possible to do this and satisfactory analgesia was produced.

A test dose of about 5–8 ml. of the solution has always been used to make sure that injection was not being made into the theca.

REFERENCE