

OUR PRIZE COMPETITION.

WHAT DO YOU KNOW OF SPINAL ANÆSTHESIA AND THE DRUGS USED IN THIS CONNECTION?

We have pleasure in awarding the prize this month to Miss Ethel S. Laing, S.R.N., F.B.C.N., Assistant Matron, Mayday Road Hospital, Thornton Heath, Surrey.

PRIZE PAPER.

Spinal Anæsthesia indicates the injection of local anæsthetics into the sub-arachnoid space of the spinal canal, the site chosen being between the third and fourth, or occasionally the second and third, lumbar vertebræ.

The drugs used act by blocking the sensory nerve fibres passing up the spinal canal, with the result that all parts of the body below the injection lose all sense of touch and pain, the patient remaining fully conscious.

The chief drugs for spinal anæsthesia are:—Stovaine, Novocaine, Tropicocaine.

Stovaine may be used in combination with glucose 5 per cent. solution, while in other cases it is combined with sodium chloride in a 10 per cent. solution.

In very debilitated patients the Stovaine-Saline solution is preferable, as it diffuses more rapidly, and is a safer mixture where the blood pressure shows a tendency to be below normal for the age of the individual concerned. In these cases only $\frac{1}{2}$ cc. is given.

The average dose for a normal adult is 1 cc.

Anæsthesia is produced in from 10 to 15 minutes, while the average duration of such an anæsthesia is about one hour.

Novocaine requires that a larger dose be given, i.e. 1 to 3 cc. of a 5 per cent. solution. This drug may have a depressing effect upon the general system, and should this be suspected it can be overcome by the addition of caffeine to the solution, at the time the injection is given, or administered later, should any depressing effects become evident.

Tropicocaine is an alkaloid of the Coca plant.

The drug is prepared in ampoules containing 25 minims of a 5 per cent. neutral solution in normal saline.

The dose for a healthy adult, weighing from 10 to 11 stone, is 24 minims. A second injection of this drug may have to be given 30 to 40 minutes after the first, which is a disadvantage.

PREPARATION OF THE PATIENT.

The skin over the lumbar region is rendered surgically clean, and covered with a dry sterile dressing.

At the side of the patient would be placed the carbolic trolley: drum containing towels and swabs, Cheatle forceps in 1-40 carbolic lotion, sterile lumbar puncture needle and syringe, a test tube fitted with a rubber cork, the bottle of intra-spinal anæsthetic, glass minim measure, and collodion. In some cases, especially if the patient is very nervous, the skin over the region where the puncture is to be made is anæsthetised with a little Novocaine Solution 1 per cent. and a hypodermic syringe and needle.

The Sphygmomanometer should always be to hand, to estimate the blood pressure, for where the blood

pressure is below 100 millimetres of mercury, spinal anæsthesia is, as a rule, contra-indicated.

THE POSITION OF THE PATIENT.

Sitting up and forward, knees bent and the hands clasping the bent knees. This position puts the spinal column on the stretch, thus widening the inter-vertebral spaces, and so facilitates the insertion of the needle.

METHOD.

The blood pressure of the patient is estimated, a little preliminary skin anæsthetic may be given, and then the lumbar puncture needle is introduced into the spinal canal. From 5 to 10 cc. of spinal fluid is withdrawn; this not only confirms the fact that the needle is in the canal, but some fluid must be withdrawn before any more is put in, or pressure symptoms will arise. The spinal fluid is collected in the prepared test tube, following which the anæsthetic fluid is injected. When the required dose has been given, the puncture is sealed, and after a few seconds the patient is very gently lowered to the reclining position, a pillow being provided for the head, in order that it may be slightly raised. The reason for this slight elevation of the head is that the anæsthetic is not intended to travel up the spinal cord and so reach the vital centres in the Medulla Oblongata, which would mean paralysis of these centres, and death. It cannot be too strongly emphasised that all movements of the patient after the introduction of the anæsthetic must be very gently carried out.

The operation is performed as soon as anæsthesia is fully established. Some surgeons prefer their patients to have a small dose of morphia prior to the operation, in order that they may not be too acutely conscious of their surroundings. Spinal Anæsthesia is very valuable in patients who have any lung disease, thus avoiding the inhalation of the anæsthetic: in cases of renal disease it is to be preferred: post anæsthetic vomiting and shock are avoided, and during the operation quiet thoracic breathing is maintained.

The disadvantages are, the subsequent difficulties which may arise in connection with the rectal and bladder sphincters. Retention of urine may occur, or incontinence of urine and fæces. It is not uncommon for headache to be complained of, but this is relieved by the administration of Phenacetin, grains five to ten.

QUESTION FOR NEXT MONTH.

How may milk be contaminated? What are the principal diseases, peculiar to human beings, which may be the originators of milk-borne epidemics?

WHAT IS CAROTONE?

The newest findings indicate that the yellow plant pigment termed Carotone, is the forerunner of vitamin A in the body. It is potent in extremely minute amounts. Apparently some edible plant products, that have been known for some time as comparatively rich sources of the so-called fat soluble vitamin, carry the yellow pigment hidden beneath a veneer of green chlorophyll. The study of pigments in plants—the colours that attract our eye in the vegetable world about us—is thus acquiring a greatly increased significance.—*Public Health Nursing.*

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