CIRCUMCISION UNDER LOCAL ANÆSTHESIA.

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THE following method of producing local anæsthesia for circumcision was originally described by Oberst and does not seem to have been much used in this country. At venereal clinics local anæsthesia by any method for this small operation is not apparently in common use. I feel that if its safety, simplicity, and completeness were better known Oberst's method of anæsthesia would be more frequently employed. Local anæsthesia is particularly useful where a medical man is compelled to work single-handed, and in places where a hospital staff is small and the services of an anæsthetist are not always available. One criticism of this method is that it may produce hæmatoma. In 400 consecutive circumcisions performed by the writer at a large venereal diseases hospital during the war neither this nor any other accident or complication was seen. The anæsthesia in the most nervous patients was excellent.

Drug to be used.—Novocain in 1 and 2 per cent. solutions is quite satisfactory, but on account of the shortage of novocain in 1917 I used the substitute kerocain, which produced uniformly good anæsthesia. About 4 c.cm. of each solution is used, which equals 0.12 g. or 2 gr. of the solid. This at first appears rather a large dose, but only one case of the 400 showed a little temporary faintness; this condition passed off quite quickly, and would most likely have occurred in this man with a smaller dose. The solutions should be freshly prepared and sterilised on the morning they are to be used; unless this point is observed the anæsthesia may be found disappointing.

I find no advantage in the addition of adrenal into the solution. The advantage gained by the temporary vaso-constriction is outweighed by the disadvantage that it obscures small vessels which must be ligatured in a part to which pressure cannot be applied. Moreover, the subsequent vaso-dilatation produced by the adrenalin adds to the unavoidable congestion following all local anæsthesia.

Syringe.—An all-metal syringe such as that used by dental surgeons is the most suitable, but a fine, sharp needle must be used—not the needle with

rather a flat end which is preferred by dentists for their work.

Primary Circumcision.—It is not proposed to describe the details of the operation, since any recognised method may be adopted. After cleaning the penis with iodine a sterile strip of pure rubber sheeting, about half an inch in width, is placed round the base of the penis and held with artery forceps (Fig. 1). The object of the ligature is two-fold: first, it produces a congestion which helps the anæsthetic effect, and secondly, it retards the absorption of novocain into the general circulation. The principle is to anæsthetise deep and superficial tissues separately. A solution of 1 per cent. novocain is first injected subcutaneously in a circular direction at a convenient distance in front of the ligature.

On account of the loose subcutaneous tissue of the penis it will be found that the solution tends to travel along the length of the penis as well as round it. In order to avoid this the fluid is injected at the same time as the needle is made to travel in a circular direction. When the needle has travelled as far as possible it is removed and inserted again under the skin at the distal end of the wheal raised by the first injection, and so on until the penis is encircled. The object of this subcutaneous injection is to produce a band of anæsthesia through which a needle can be inserted into the corpus cavernosum penis, as described later. The subcutaneous injection—alone, or even with injection between the layers of the preputial sac, as advocated in some methods—cannot be relied upon to produce uniformly good anæsthesia in the prepuce and its mucous membrane. A further intradermal injection of novocain along the proposed line of section of the skin is also necessary, and will be described later. Owing to the loose nature of the tissues of the penis, sufficient pressure cannot be produced on the trunk of the dorsal nerve

FIG. 3.

of the penis to anæsthetise the terminal filaments of the nerve, as can so readily be done in the case of the digital nerves, which run in much tougher tissue.

To anæsthetise the deeper structures the needle is next inserted at right angles to the penis, at four different points in the band of superficial anæsthesia already produced, into the substance of the corpora cavernosa penis and 1 c.cm. of 2 per cent. novocain injected at each of the four points, as shown in Fig. 2. Care is, of course, taken to avoid the corpus cavernosa urethræ, lest the needle penetrate into the urethra. The nerves anæsthetised by these injections are the nerve to the bulb from the perineal and the branches of the dorsal nerve to the corpora cavernosa penis. The latter branches are given off before the dorsal nerve becomes superficial, and are therefore unaffected by anæsthesia produced in the main nerve at a point after they are given off. The nerve to the bulb and the branches of the dorsal nerve to the corpora penetrate the corpora cavernosum penis to reach

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their destination in the mucous membrane of the urethra and glans penis. The resistant nature of the coats of the corpora allow sufficient pressure to be produced to anæsthetise these as effectually as injection directly into the nerve itself.

The loss of sensation in the preputial mucous membrane, caused by injection into the corpus cavernosum, is so uniformly constant and good as to lead one to think that the nerves which supply the

FIG. 4.

FIG. 5.

Ventral aspect.

urethral mucous membrane also innervate the mucous membrane of the prepuce. The anæsthesia is sufficiently deep to allow of such conditions as papillomata of the glans and adherent prepuce to be dealt with without the slightest pain. To anæsthetise the skin of the prepuce intradermal injections must be made; if phimosis forceps are used they are now applied and 1 per cent. novocain injected intradermally on each side of the forceps as they grasp the prepuce. A small intradermal wheal is first formed and the skin picked up by the needle at the distal end of this and a second injection made producing another wheal, and so on until the whole line of the incision is covered (Fig. 3). About 2 c.cm. will be found necessary. If phimosis forceps are not used the skin is injected intradermally in the same way along the proposed line of section of the skin. The operation is started immediately after the last injection.

One point must be mentioned in connexion with the operation—namely, the securing of vessels. After division of the mucous membrane the ligature round the penis is released and a careful search made for divided vessels. Even if not bleeding at the time the smallest vessel should be tied, for the unavoidable congestion following local anæsthesia in about half an hour may cause quite a tiny vessel to spurt if it has not been secured.

Circumcision after Dorsal Incision.—In this case the same plan is followed of applying a ligature round the penis, band of anæsthesia and injection into the corpora cavernosa penis, the final injections being made intradermally along the lines indicated in Figs. 4 and 5.

After-treatment.—In order to avoid unpleasant tingling when the parts are recovering sensation, the following draught should be given immediately after operation:—

R Liquor morphinæ hydrochlor. ℥ 30. Aq. ad 3ss.

NASAL OBSTRUCTION IN INFANTS

DURING THE FIRST YEAR OF LIFE.¹

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THE evil effects of nasal obstruction and the necessity for its efficient treatment in children and adults are now widely recognised, but concerning infants in the early months of their career there appears to be a consensus of lay and medical opinion that tender age prohibits efficient surgical treatment,

and that a policy of *laissez faire* must be adopted until a more sturdy age is attained. That this policy is wrong I am firmly convinced, for to do nothing in the case of an infant suffering from severe nasal obstruction is to render its chances of reaching a really sturdy age somewhat remote, while surgical treatment is simple and efficient in the majority of cases.

Causes of Infantile Nasal Obstruction.

These may be set forth as follows:—

1. Congenital occlusion of the nostrils, (a) of the anterior nares, by means of a congenital web of skin at the junction of the vestibule with the nasal chamber proper, and (b) of the posterior nares, where a diaphragm consisting of bone, or partly of bone and partly of membrane, may partially or totally obstruct one or both choanæ. These conditions are rarely observed in the infant, for if the occlusion is complete, asphyxia neonatorum will result; if it is partial, it usually escapes attention until later years.

2. Temporary presence of mucous secretion in the nose, and engorgement of the nasal mucosa, during the first few days of life before mouth breathing is established. Hunter Tod records a case of this nature in an infant 12 hours old, who was threatened with death from asphyxia. He sprayed the nostrils with a weak solution of adrenalin hydrochloride, and free nasal breathing was at once established.

3. Congenital syphilis.

4. Mongolism. In mongols, the lumen of the nostrils is diminished, mainly due to depressed nasal bones.

5. Adenoids. This, by far the commonest cause of infantile nasal obstruction, is completely amenable to treatment.

Symptoms.

The symptoms of nasal obstruction in the infant are:—

(a) *Inability to suckle efficiently.*—Directly the mouth closes over the nipple difficulty of breathing through the obstructed nose at once occurs, and the infant has to let go the nipple in order to breathe through the mouth. It also swallows air whilst trying to suck, which makes it sick and gives it attacks of wind. Digestive troubles and malnutrition follow.

(b) *Snoring when asleep and frequent suffocative attacks.*—The mother complains that the infant has to fight for its breath and nearly chokes. Laryngeal spasm, laryngismus stridulus, and night sweats sometimes occur.

(c) *Persistent cough.*—This is reflex, or from spread of catarrh from naso-pharynx downwards.

(d) *Nasal discharge.*—Present in a certain proportion of cases, especially when the nasal obstruction is due to congenital syphilis.

(e) *Convulsions.*—A comparatively rare symptom.

(f) *Otorrhœa*, frequently bilateral, is observed in about 25 per cent. of cases when adenoids are the cause of the nasal obstruction.

Diagnosis.

Nasal obstruction is diagnosed from the presence of the above symptoms, (a) and (b) always being present in a greater or lesser degree. The question will then arise which of the five causes of nasal obstruction in the infant is operative.

Congenital occlusion of the nostrils is very rare, and only cases of partial occlusion survive. In these cases it might be noticed, as in the case recorded by StClair Thomson, that the mother could only nurse the child when it was lying on the obstructed side (so that the patent nostril did not get blocked by gravity). Examination with a probe will reveal the situation and completeness of the obstructing web. The presence of mucous secretion in the nostrils, and engorgement of the nasal mucosa, will cause temporary obstruction only, and this can be immediately relieved by the use of a weak adrenalin spray. In congenital syphilis there will be a muco-purulent, irritating nasal discharge, distinguished by its chronicity, as compared with a simple rhinitis. Typical skin eruptions and other constitutional signs of the disease are usually

¹ A communication read before the Manchester Medical Society.