

although in 28·3 per cent. the tinnitus was cured. Improvement, both as regards dulness of hearing and tinnitus, was effected in cases of simple chronic middle-ear catarrh, subacute catarrh, acute otitis media caused by influenza, and the sequelæ of chronic purulent otitis. He used the Max Breitung apparatus, and commenced with piston excursions of 2 millimetres, rarely as long as 5 millimetres, and with a frequency of from 600 to 1,200 (? per minute). The duration of the séances was ordinarily one, two, or rarely three minutes.

*Dundas Grant.*

### THERAPEUTICS.

**Foote, C. G.**—*A Painless Method of Skin-grafting.* "Med. Record," November 9, 1901.

In connection with the technique of skin-grafting in mastoid operations, the following plan might be adopted, although specially advised by the author for grafting in ordinary cases of ulcer, etc.

The instruments required are a sharp razor, tissue forceps, and an ordinary hypodermic syringe and needle.

The place from which the graft is to be taken is prepared in as aseptic a manner as possible. An ordinary hypodermic syringe is filled with decinormal salt solution, the needle is inserted under the epidermis, and as much of the salt solution as possible injected into the skin, the injection being made between the cutis vera and epidermis. The needle is inserted three times in this same manner, so as to produce an elevation about one and a quarter inches in length, by half an inch in width. The graft is then very easily removed by a sharp razor.

The advantages claimed by the author for this method are : (1) its painlessness ; (2) the ease with which the grafts can be removed.

*W. Milligan.*

**McCardie, W. J.**—*Some Further Cases of Ethyl-Chloride Narcosis.* "Lancet," July 20, 1901.

There was recently published in the *Lancet*<sup>1</sup> a paper in which the author gave short notes of some cases of ethyl-chloride narcosis, and he now recounts his experience of some more cases in the hope that it may be a help to others who wish to make trial of ethyl chloride as a general anæsthetic. One case is of interest, because the patient died about an hour after the administration ; another case because of the development of a rash during anæsthesia ; and yet another case because the accompanying muscular excitement made full anæsthesia and operation impossible. The longest operative anæsthesia lasted for from sixteen to seventeen minutes, and the result in every way was excellent, although, according to her medical attendant, the patient had had very serious symptoms when he had once before given her chloroform. The administrations for removal of tonsils and adenoids in many of the selected cases gave excellent results. A list of cases is appended.

In all of the adenoid cases, nitrous oxide, failing ethyl chloride, would have been administered, and the operator in most cases found much advantage in ethyl chloride over nitrous oxide, as giving a much longer anæsthesia, usually lasting from three-quarters of a minute to

<sup>1</sup> *Lancet*, March 9, 1901, p. 698.

two minutes, and causing no congestion, while apparently having a distinctly stimulative action. In the recumbent position, at any rate, the insertion of a mouth-prop before beginning the administration rather hinders free breathing and upsets the patient. It is preferable to place the closed blades of a Mason's gag in the corner of the mouth, and even better to insert the instrument when full anæsthesia has been induced. The drug should be given until the pupils are contracted or just beginning to dilate, and till the conjunctiva is insensitive and full muscular relaxation has occurred; then the mouth can be easily opened, and the operation proceeded with. Ethyl chloride has obviously great advantages over gas in these short adenoid operations, where an extra minute or half a minute of anæsthesia makes all the difference to absolute success. On the average the author uses between 5 and 10 c.c. in these cases, much usually remaining over. It would seem that in many short ear and nose operations ethyl chloride might also be used with great advantage. In ear, nose, and throat work there is apparently no objection to administration in the sitting-up position, a great gain to the operator, in that the usual relative position of surgeon and patient is maintained. In dental work nitrous oxide suffices for very short cases when given in the ordinary way. For slightly longer cases ethyl chloride would be very advantageous, but for the longest cases of all—those, say, lasting for from three minutes to ten minutes—nitrous oxide, given by the Coleman-Paterson method, answers every purpose, since it can be continuously used during operation. Seitz of Constance, a well-known dental surgeon and writer on dental subjects, in a recent work on dental narcosis, strongly recommends ethyl chloride for dental operations instead of nitrous oxide or ether.

If the patient be very strong and very excitable, and especially if he be an alcoholic, and it be attempted to administer ethyl chloride, it is advisable to have both ether and chloroform to hand, as instanced in the case of the patient in Case 12, who showed great muscular and mental excitement. According to Lotheissen, Wiesner, and others, excitement is chiefly shown by alcoholics, but the patient just referred to was an abstemious man.

After-effects have in all the cases been slight or absent altogether.

The author thinks that, contrary to the custom of some administrators who "crowd" on the anæsthetic, dosage should be by gradually increasing additions of small quantities of the drug—say, 2 or 3 c.c. at a time—until anæsthesia is attained, and then about the same amount given per minute will generally be enough to maintain narcosis. There is decidedly a disadvantage in pouring out at the first a full dose, pressing the inhaler very firmly on the face, and keeping it on, in spite of crying and struggling, till the patient is under. By this method overdosage may occur, and the patient will not forget the terror and feeling of suffocation during the induction of narcosis.

The case of death after operation, under the influence of ethyl chloride, in no way shakes his present opinion of its value as a narcotic, and he has since then taken every opportunity of trying it for the shorter surgical operations. Finally, ethyl chloride might advantageously be used instead of nitrous oxide mixed with oxygen or nitrous oxide alone for many of the shorter operations, and more especially in the case of less vigorous patients. *StClair Thomson.*