left maxillary antra, both ethmoids, both frontal sinuses, and one sphenoidal sinus. There was also a discharging opening at the inner angle of the right orbit which communicated with the frontal sinus. The teeth were removed, the antra opened, and the ethmoids curetted. Each frontal sinus was ionized twice, and an autogenous vaccine given. The sphenoidal sinus was ionized and suppuration in it ceased at once. The opening into the orbit closed without any further treatment, and in a short time all discharge from the nose ceased and did not recur.

HARE-LIP AND CLEFT PALATE: A WAR INFLUENCE.

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(Abridged.)

I HAVE no intention in this short article of going fully into the question of the treatment of hare-lip. I would, however, remark that war experience impressed upon me the fact that no tissues need be sacrificed. For instance, I find that the mucous border need not always be completely detached, but can almost invariably be incorporated into a useful backing support, helping to give that prominence to the upper lip which is essential to success.

One refinement suggested by extensive work with cartilage relates to the usually lost philtrum in hare-lip. I have been able to restore this prominent feature, with excellent result, by the insertion of small strips of septal cartilage. Together with many other surgeons, I make a practice of closing the hare-lip first, the idea that such practice interferes in any way with the palate operation being quite obsolete.

The worst enemies of the plastic surgeon are sepsis, insufficient blood supply, and tension. All these are constant companions of the cleft palate operation. The wonder is not that cleft palates are so often operative failures but that they ever succeed. Careful examination prior to operation in such cases often reveals not only the presence of adenoid masses but very frequently a condition of rhinitis sicca with accompanying pus.

Let us reflect what happens when we perform the more common Langenbeck operation; let us assume that the parts are healthy though congenitally defective prior to operation, what condition do we immediately create? We raise two flaps off the bone, thereby at once creating four raw surfaces. The nasal surfaces of both the flaps are left bare, as also the bony areas. All these surfaces invite infection, with the result that the wound breaks down. Lane's operation gets over the difficulty by opposing raw surfaces, and for this reason the plastic principles are correct. The measure of success of the palate operation must, however, be judged by its ultimate functional utility, to obtain which the sacrifice and displacement of tissues must be reduced to a minimum. When once surgeons realize that raw surfaces must be reasonably protected, and also recognize the above causes of failure, success will invariably follow.

Early in 1917, at Aldershot, I made several attempts to support tissues with mass paraffin, but failed. Had I skin-grafted the under surface of my flaps these failures would probably have been successes, and much valuable tissue would have been saved.

The grafting of cavities has long been a recognized practice; but it was left to Esser, in 1917, to demonstrate how a cavity could be made and filled with graft-covered dental stent, which was left until the cavity was lined and fit to be opened out to make the extended surface which was the object of the procedure.

My present method of dealing with the cleft palate is based upon Esser's principle. In my first case I worked upon the theory that a graft-covered support of wax secured through the nostrils would not only support the palate but cover the posterior raw surface. I am satisfied that, although I failed to secure the plug in position for more than thirty-six hours, such an operation is feasible and practicable were there no easier method. For three weeks the palate looked perfect, but suddenly broke down. The failure, I think, was due to the inclusion of a portion of the graft in the central incision, producing a weak union. In my second case I worked upon the idea

of partially embedding two masses of graft-covered wax in the usual relaxation cuts, and securing them with ligatures. This procedure was a total failure, and the whole broke down at the end of twenty-four hours.

It then occurred to me that Esser's method could be applied, provided a substitute were found for the dental stent. A suitable case presented itself four months ago in a boy of 12 years, with a history of previous operative failure. With the assistance of Drs. Mathew and Gilbert of Port Elizabeth, I performed the operation.

I made small incisions in the usual position internal to the last tooth and carefully freed the hard and soft palate with blunt forceps. I thus formed a pocket on each side, and plugged with gauze. I had previously prepared a wax mass, consisting of paraffin 1 oz., beeswax 2 drachms, iodoform 1 grain, bismuth carbonate 2 grains. I cut two almond-shaped plugs from this mass. I next cut two large Thiersch grafts from the inside of each thigh, approximately 2 in. by 1 in. Each graft was then spread over its wax cone and held in position with medium-sized Kocher forceps. Dr. Gilbert held the edges of the pocket open, and having removed the gauze I dropped the graft-covered wax into the cavity, securing each in turn with one suture. This was the first stage of the operation. The insertion of the wax had practically closed the cleft and made the parts immovable.

The next step as originally intended was to wait ten days, then incise along the cleft border, remove the wax and suture the raw edges. This procedure was adopted upon the fourteenth day. The patient made an uneventful recovery, and the speech was very greatly improved.

The points of interest are many. It occurred to us after reflection that the parts being approximated by the wax, probably a slight incision along the edge and a few sutures would have caused union in the first place. The wax could have been removed later through the original incision. No inconvenience was caused by the mass of paraffin in the pharynx, and the immobility of the palate was marked, and, of course, a most valuable adjunct to success.

Full feeding was permissible from the first, and no attempt was made by Nature to expel the graft-covered foreign body. War experience taught me that a wax body not covered by graft was sooner or later expelled. Here plastic surgeons will appreciate my remarks; does not this open up a whole field of valuable possibilities?

I may not use paraffin plugs in future; I may use plugs of iodoform gauze covered in wax, but the principle of the operation I shall repeat in every other detail upon the first opportunity, with the exception that I shall probably leave the plugs in three weeks instead of ten days.

To sum up: this operation provided protection for all raw surfaces and consequent risk of sepsis, absolute fixation which no other means have so far been found to combat, and the use of free feeding from the first; lastly, the natural position of the tissues is disturbed as little as possible, and the possibility of a useful palate can be hopefully looked forward to.

This operation was performed upon a boy of 12 years, as mentioned above, but I would not hesitate to do the same upon a child of 2 years of age. There appears to be little or nothing to be gained by operating at an earlier age, and much to be lost. A functioning palate, after all, is the only result worth aiming at.

Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF DELAYED CHLOROFORM POISONING.

An operation was performed on a patient, a girl aged 13 years, suffering from acute appendicitis of forty-eight hours' duration, and a gangrenous appendix, with about a drachm of foul pus, wrapped round with omentum, was removed *en masse*. Open ether was the anaesthetic administered at first, but as the child appeared very "chesty" chloroform was resorted to later. Very little of the latter anaesthetic was used, and the duration of the operation was just under half an hour.

The patient had completely recovered from the anaesthetic in six hours' time, and she remained comfortable