

## LETTERS TO THE EDITORS

### ZINC IONISATION.

TO THE EDITORS,

*Journal of Laryngology and Otology.*

DEAR SIRS,—Mr Friel has dealt with the first part of Dr Lister's communication\* on the results of ionisation, and I can confirm what he states regarding the apparent differences in results. It is largely a question of technique and of eliminating the "cause of chronicity."

I am surprised that it has not been found practicable to employ this method of treatment in children. We have treated successfully children as young as six months, the child usually going to sleep during the operation. Again, it is a question of technique and a suitable ionisation apparatus. Regarding the latter I hope to be able to send a communication at an early date, and meanwhile may I add a few remarks on the treatment of radical mastoid operation cavities?

It is quite impossible to secure, with an ear syringe only, thorough cleaning of all the nooks and cavities left after operation. An attic cannula must be used, guided by a good light.

The most common cause of chronicity of discharge following a radical mastoid operation is failure to obliterate the Eustachian tube. If evidence is required one has only to consider the multitude of operations and instruments which have been devised to deal with this condition. Here two methods are available, either ionisation or electrolysis.

*Ionisation of the Eustachian Tube.*—Having thoroughly cleaned the operation cavity and filled it with zinc sulphate solution (the patient lying down), the finger or thumb of one hand is placed over the external auditory meatus and the pinna is held with the other hand employing an upward and downward motion with thumb and pinna. This imparts a piston action and drives the solution along the tube into the nasopharynx. The patient will soon inform one when this has occurred. The ionisation is then proceeded with keeping the cavity full of solution, as occasionally it continues to trickle along the tube. In this way ionisation of the Eustachian tube is effected.

I would add that this method is also used by us in all ear ionisations where we believe Eustachian tube infection to be the cause of chronicity. Here, however, greater care is called for, and only sufficient force is used to drive the solution into the tube. Otherwise it is quite a safe and very effective measure.

*Electrolysis of the Eustachian Tube.*—After preliminary cleaning, a tapered zinc rod, No. 13 standard wire gauge with the end bent to an

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angle of 25 degrees for the distance of  $\frac{1}{4}$  in., is inserted into the tympanic orifice of the Eustachian tube. If one instils at the same time a 2-per cent. solution of cocain the operation will be practically painless. Even without cocain there is little discomfort.

This procedure will effectively seal the tube and insure a cessation of the discharge. The milliamperage used is the same as for ionisation and for a similar period, *i.e.*, the maximum a patient will bear without discomfort for fifteen to twenty minutes. Insulation of the wire can be effected by rubber tubing or a solution of shellac in methylated spirit.

Another common site of trouble is above and behind the remains of the "bridge" where there has been incomplete removal of the mucous membrane of the aditus and antrum. This membrane usually grows rapidly and forms a small pocket and secretes continuously. The remedy consists in cleaning out all debris and applying a cotton-covered pure zinc rod soaked in zinc solution, and then ionising. This will destroy the secreting membrane with a milliamperage of 2 to 4 for fifteen to twenty minutes; more should not be used, as we do not wish to destroy the underlying bone.—Yours truly,

F. H. B. NORRIE.

CALCUTTA, 4th May 1926.

THE EDITORS,

*Journal of Laryngology and Otology.*

SIRS,—Dr Jobson in his paper on zinc ionisation in the treatment of chronic otorrhoea has clearly pointed out:

- (a) The conditions which preclude treatment by this method.
- (b) The cases in which a rapidly successful result may be expected.
- (c) The reasons underlying suitability or unsuitability.

In practice we try to convert cases which are not suitable, when first seen, into those which are suitable. May I draw attention to a small intratympanic electrode useful in those cases where there is a septic confined space difficult to fill with zinc solution and to the walls of which the electric current cannot be readily conveyed. Such a space is the incus area. The aim in using this electrode is to make this space open by destroying a certain amount of tissue.

The electrode consists of zinc wire to which is soldered some thin copper wire. The wire is fastened to a light wooden handle, and in order to limit the action to the part desired the wire is varnished except at the spot which is placed in contact with the tissue to be destroyed. (See Diagram.) The current deposits zinc in the tissue and the zinc coagulates and kills the tissue. In a short time the necrosed part vanishes and the space becomes open. Bonain's