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## SKIN-GRAFTING IN CHRONIC SUPPURATION OF THE MIDDLE EAR.

BY EDWARD T. ELY, M. D., NEW YORK.

**D**URING the past two years I have made some experiments with skin-grafting in the treatment of chronic suppuration of the middle ear, and I wish to publish a brief account of my experience thus far. I believe that this use of skin-grafting originated with me, my first trial of it having been made in June, 1878. Since then I have operated upon nine cases, repeating the operation several times in some of them. In six of these the drumhead had been almost entirely destroyed, there was little or no discharge, and the mucous membrane of the tympanic cavity presented a more or less thickened and granular surface. Upon this surface were placed small pieces of skin taken from the forearm. In two cases, where a large part of the normal drumhead remained, the edges of the perforation were freshened by scraping, and a piece of skin laid over it. The dressing consisted of a borated cotton packing. The superficial layers of the cotton were removed within 24 hours, in order to inspect the deepest layer immediately over the grafts. This latter was not changed until it was found to be discolored by discharge. The packing was continued for several days, varying with circumstances. In one case the grafts were covered by a layer of goldbeater's skin before the cotton was applied. No advantage was seen from this. The instruments used were washed in carbolized water. The operation never caused pain or discomfort, but always excited a discharge. Sloughing of the grafts fol-

lowed within a few days in most instances. The benefit which I have observed to follow this treatment will appear from the following brief abstracts of some of my notes:

I. Female. Æt. 20. *Chronic suppuration both middle ears for 16 years.*

*Nov. 21, 1879.*—Three grafts placed in right ear.

*Nov. 25th.*—Two of the grafts are adherent and living.

*Nov. 29th.*—Grafts doing well.

*Nov. 30th.*—Discharge appeared, apparently caused by taking cold.

*Dec. 3d.*—Some sloughing at edges of grafts.

*Dec. 9th.*—Discharge has ceased under use of balsam of Peru. A portion of one graft remains and is growing.

The final result of treatment was the formation of a thin, cicatricial membrane over most of the suppurating surface. Before this result ensued, the grafting had been repeated several times and various medicinal applications had been made. The only point in the history upon which the writer would specially insist, is that two of the grafts certainly lived and grew. These pieces of skin were watched by Dr. D. B. St. John Roosa and by myself, and between Nov. 25th and Dec. 9th, we both saw new tissue shoot out from their edges. After this, the case did not progress so favorably, and much of what had been gained was lost again. All the subsequent grafts sloughed. It seemed to Dr. Roosa and myself that in this case and in one or two others, the operation had some effect in stimulating cicatrization, even though entire sloughing of the grafts appeared to occur. This beneficial effect is, of course, very doubtful, owing to the auxiliary treatment used.

II. Male. Æt. 23. *Chronic suppuration of left middle ear.*

*Feb. 17, 1879.*—One graft applied.

*March 3d.*—Part of the graft has lived and has been joined by offshoots from the edges of the surrounding tissue. The exposed surface has been reduced to about one-half of its former size.

In this case the operation was certainly successful, although complete healing was never attained. The new tissue formed by grafting still remains.

III. Female. Æt. 23. *Chronic suppuration of left middle ear for 2 years.*

Between Oct. 18 and Nov. 2, 1880, six grafts were inserted. The operation caused considerable mucoid discharge, and the grafts seemed to be washed away. Two very damp and "muggy" days seemed to affect the case unfavorably.

*Nov. 8th.*—No discharge. There are four whitish spots at the sites of four of the grafts and corresponding to them in shape.

*Dec. 2d.*—No discharge since Nov. 6th. The appearances of the ear are improved. The cicatricial spots remain and are extending a little.

The hearing was not altered in any of these cases.

The results reported above are certainly not brilliant, and yet I am encouraged, by what I have seen, to continue these experiments and to predict that skin-grafting will prove a useful addition to our means of treating chronic suppuration of the middle ear.

Two cases of myringoplasty have been recorded which were entirely successful. In these cases a piece of skin was laid over a perforation, the edges of which had been freshened. The operations were performed by Prof. Von Berthold, and an account of them may be found in the *Monatsschrift für Ohrenheilkunde*, November, 1878. To him belongs the credit of first calling the attention of the profession at large to this subject. His first operation seems to have been done August 1, 1878. An abstract of his paper, in English, may be found in the *American Journal of Otology*, vol. i, p. 306.





