RICKETTS (B.M.)

PLASTO-COSMETICS IN SURGERY OF THE FACE.

BY

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By B. Merrill Ricketts, M.D.

Mr. President and Gentlemen:—When asked by your Secretary to present something that would be of interest to the members of this, the most flourishing and progressive medical society west of the Alleghenies, I hesitated, feeling that the most common medical and surgical subjects have been comparatively exhausted, as the frequent meetings of the various medical and surgical societies with their allies would indicate. But when we consider the subject of each and lay down the bars leading into their uncircumscribed areas,—areas which are themselves subdivided—we find that our exploits and discoveries are confined principally to the main area; that the bars lowered by Galen, Harvey, and Hunter are but a short distance in the background; that while during the past century many new and important discoveries have been made, thereby overthrowing doctrines which lead to practices that would now be condemned and looked upon as acts of malpractice, we cannot feel that the end has *half been reached.*

While the subject I present to you—namely, "Plasto-Cosmetic Surgery"—is somewhat an antiquated one, I feel assured that the demands for resorting to it are by far more numerous and the results better.

The demands for an unblemished appearance are in proportion to the degree of civilization. In the early days of surgery, especially the time of Tagliocozzi, the operation for hare-lip, cleft palate, the replacing of a lip, eyelid, or nose, or any part thereof, was seldom practiced, and when they were good results were few. Although the demands for the correction of deformity were fully understood by many, it was not until the time that this public benefactor, Tagliocozzi, reported his observation on grafting the cock's spur into his comb and the end of the rat's tail into its back, that anything authentic was published or brought before the profession.

Not until the eighteenth century, a time when the process of waste and repair was more fully understood, was it that an era and system were inaugurated by which lost parts might be restored. In fact, from the time that the circulation of the blood was understood by Harvey, a few keen, observing men in the profession (men possessing what might be considered a morbid desire to correct deformity) began to experiment upon the lower animals, that they might be able to serve their fellow men. How great the courage of an enthusiastic man like he (Tagliocozzi) must have been when he made his first pedunculated graft. Surely it must have approached that of *Kentucky's bravest man.*

Then facial deformity was principally the result of disease; however, accompanied more or less with that of heredity. To-day the per cent. of the former (disease) is but a small per cent., with about the usual per cent. of congenital deformity. Now from seventy to eighty per

cent. are due to traumacy as the result of the various kinds of machinery and occupations which characterize the age. They adopted plans which were the result of their own mental energy; we merely follow their teachings, with the addition of a small modicum of microscopy, electrolysis, antisepsis, and more numerous opportunities. Their experience and the means at our command for making microscopical examinations (which so definitely determine the character of growth and disease), together with electrolysis and antiseptic measures, enable us to arrive at safer and earlier conclusions and adopt more radical measures with better results. The experienced microscopist or pathologist of to-day is seldom in doubt, and, when denied the privilege of making an operation, need not hesitate in making a diagnosis if allowed to excise but a small portion of the growth, a proceeding which should always be adopted when there is any controversy as to its character or the final result of the operation. We are not justified in basing our conclusions upon the clinical appearance alone, *especially* when the operation to follow may not result in all that could reasonably be supposed. However, there appear times when it would seem necessary to be governed by the surrounding circumstances, or when the services of a competent pathologist can not be had. Delay should not then be indulged in, but the patient operated upon at once. When the lesion is slight, involving cutaneous structures other than that of the eyelid, lip, nose, or ear, removal may be accomplished by either the curette, caustic paste, actual thermo, or galvano-cautery, or it may be excised with the knife, which to my mind is the most rational means in the majority of cases occurring, especially upon the former location (eyelid, lip, nose, and ear). When the deformity is the result of traumacy, heredity, or any other like cause, the knife is the *quickest, surest,* and in fact the only means at our command by which the irregularities resulting therefrom can be corrected.

Here I find it not only convenient but necessary to make three classifications, each of which requires a different kind of treatment:

1st. Removal of malignant growths.

2d. Correction of deformity due to loss of parts from either congenital or traumatic causes, or from previous operation or disease of any kind, including pug nose and ptosis.

3d. The removal of nævi, warts, moles, hairs, pigmentary deposits, cicatrices, alveola, fistulæ, enlarged glands, or anything abnormal other than malignant growths that may appear upon the face or neck.

1st. Removal of malignant growths. In this class I include all growths which have a tendency to recur. They are of the most importance, and should in consequence thereof be given precedence. The growth should be removed as soon as possible, and when found in its incipiency should be done with the knife, encompassing as much healthy tissue as can be spared.

If upon the eyelid, lip, or nose, a complete and thorough excision should follow, and the parts immediately restored by an individual or pedunculated graft from either the face or arm. When the malignancy has existed for some time, secondarily involving the eyelid, wing of the nose, lip, or ear, together with destruction of osseous tissue, some form of paste may be used; and when sloughing has been followed by the necessary granulation, a pedunculated flap may best be taken from the arm. While the formation of cicatricial tissue

should be avoided so far as possible, it is this upon which we must depend for recovery when there has been extensive degeneration of tissue, with or without caries—a condition which is so often found in the long-standing cases of epithelioma. There is no course to be adopted that promises more for a good base upon which to graft in these extension cases than a thorough curetting, followed by the application of some form of arsenical paste.

However, the old theory, that malignant growths, after being excised or removed by cautery, of any kind, and allowed to heal by granulation, is less likely to return, can no longer be entertained by the most experienced observers.

The removal of malignant tissue, until within the last half-century, was principally done with caustics or the actual cautery and the healing left to care for itself, which in the majority of cases resulted in dreadful cicatricial contraction, a deformity which should always be avoided. Here I might say that the use of caustics in the treatment of malignant growths, especially of epithelerica of the face, has been sadly neglected and allowed to sink into almost oblivion. My experience and what I have been taught by the literolum upon the subject by both professional and non-professional workers has led me to thoroughly investigate the treatment by these means, so that what I have to say will be found in a paper read by me before the Ohio State Medical Society in June, 1886, and published in the LANCET-CLINIC of June 12, same year.

When a malignant growth occupies a prominent place upon the cheek or neck, places where the skin is plentiful, the coapting of their edges following the incision is all that will be necessary to complete the operation, which will result in practically no deformity whatever. If the integument be wrinkled from old age or any other cause and the operation be made, resulting in a smooth surface so that there is a contrast in the two sides, a similar section may be excised from the opposite side with cosmetic effect. I have recently had a case fully demonstrating the necessity and efficacy of such an operation.

2d. The correction of deformity due to the loss of parts from either congenital or traumatic causes, or from previous operations or disease of any kind, including pug nose and ptosis.

In this class about the same course should be adopted as in the first class after an excision has been made.

If the brow be destroyed, with the loss of tissue, a flap taken from the corresponding temple, the line of incision having been through the hairy integument of the temple, will be found suitable to adhere with but little difficulty. True, they would not be perfect, but by frequent trimming and a little care they will answer the purpose and correct a deformity that is always more or less objectionable.

If the reasons are such as not to justify the taking of tissue from either the face or arm for grafting purposes, the skin of the chicken removed from under its wing or the skin taken from the under surface of the frog may be substituted with equally as good results; or, if there is left to heal by granulation a surface that will be covered with cicatricial tissue, one or more small individual epithelial grafts may be made to attach themselves.

Where the surface is large the same result can be obtained with but one graft, cut one-third larger than the surface which it is intended to cover, shrunken in hot water a few minutes, dried with towel, and applied immediately.

Since the introduction of sponge grafting the epithelial coating is completed very much sooner in indolent granulation, and, when cared for carefully, will greatly benefit the reparation process in the majority of granulating wounds.

Rhinoplasty.—One of the greatest difficulties, to overcome in operations about the nose, is to preserve its prominence. If the septum or cartilage be absent, or if it is found necessary to remove one or both of them, it is almost out of the question to elevate it with muscular or cutaneous tissue. In either of these events they should be replaced by cartilaginous or bony tissue from the patient or from one of the lower animals as soon after its birth as possible. If the septum alone is wanting it may be replaced by the tibia and fibula or the radius and ulna of a guinea pig, kitten, rabbit, or puppy. If these are objectionable and the patient is willing to sacrifice a finger, a better result will follow than with any other proceeding. Should the subject of the operation be so fortunate as to have a friend or find any person who is willing to part with a superfluous finger, which is occasionally due to congenital malformation, no difficulty will be found in utilizing it to make the part more prominent. The finger being divested of the nail and the matrix destroyed, is then prepared for attachment by a longitudinal incision in the palmar surface. It is then attached by sutures and the hand and head perfectly secured by bandages until union has taken place; which when thoroughly accomplished the finger is amputated, leaving enough of the integument to properly cover the lower end of the bone. One case I recall was so cleverly done that the graft had not the appearance of having been a finger.

When the septum and bony parts of the nose are remaining (from injury or otherwise), in either case a different procedure is to be followed. In these cases a section with a pedicle may be taken from the cheeks, forehead, or arm. When taken from the cheeks, which I think the most practical in the majority of cases, the union takes place in the naso-median line, leaving but a slight cicatrix. If but little of the cartilaginous alæ is left remaining it can be utilized in making the tip of the nose more prominent. To remove the flap from the forehead is the most objectionable operation of the three, as there is always a large cicatrix as a result upon one of the most prominent parts of the face. The principal objection to removing the flap from the arm is in the time required before the tissue can be detached from the arm. As a rule these flaps are attended with very good results indeed. They seldom fail to unite if properly cared for, but the distress the patient experiences from the arm being bound up so long is such as to question the proceeding as being preferable to taking the flap or flaps from the cheek.

In those cases of thickened *alæ*, Linhart's operation, which consists in excising elliptical pieces, should be made.

Pug nose, when to the extreme, can be made to appear without much deformity by the now accepted operation, which consists in removing a small section of the septum, thus lowering the tip of the organ to any desirable degree.

Deviated Septum. — Should the bony structures of the nose deviate from the median line, it can be made straight by simple means. That these operations terminate successfully is no longer a question, the good results depending upon the skill of the operator and the care exercised in the after-treatment.

Eyelid. — Ptosis, that much-neglected deformity, can easily be relieved to a great degree by simply removing a part of the eyelid, as in the operation for entropion, and relief should be given in all cases, it being better at any time to expose a part or all of an eye than to have it completely covered, as is often the case following paralysis of the third nerve, the levator palpebra muscle being involved. Surgical interference is especially demanded if the branch supplying the upper eyelid alone should become paralyzed by some traumatic lesion or an exostosis or tumor, Von Graefe's operation being the most desirable in the majority of cases. It is always desirable to leave one-quarter, or at least one-eighth, of an inch of the palpebral margin.

Lips.—As the operation for hair-lip is the most common, and the good results therefrom so well known, I will not enter into detail with reference to the various procedures. Suffice it to say that more has been accomplished in these operations than any other in plastic surgery. Most of them are accomplished with flaps taken from the face. However, many brilliant achievements are secured with grafts taken from the arm.

Fissures. — Lesions of this character, especially when chronic or showing a tendency to recur at stated intervals, should be excised, thus enabling radical measures to be adopted. Union by first intention is nearly always the result when the edges are perfectly adjusted and held secure with sutures.

Thickened lips may be reduced to their normal condition by removing a section by means of either a longitudinal or transverse incision, as the case may require.

The operations of Koenig, Linhart, Langenbeck, Malgaigne, Graefe, Colles, Szymanowsky, Roser and Buck are perhaps all familiar to you, and their results fully appreciated. Surely it is to these unselfish characters we owe our thanks for the high standing these operations have attained.

The Ear.—Here is an organ which has suffered greater neglect than any of those about the face. It is, I think, due to the difficulty in finding suitable tissue for grafting purposes. A small degree of it may be due to the fact that a partial destruction is not so much realized on the part of the subject. Where the entire auricle is absent it seems at present best to replace it with an artificial one made of paper, rubber, celluloid, or some other one of the compositions used for that purpose. But when the lobule has been destroyed a pedunculated graft from the arm will completely restore it. Should the helix alone be removed it is very difficult to replace it. However, if any part of it be absent, especially when due to having been bitten out by human teeth (which is the most frequent cause), leaving a concave surface, the edges may be brought together after having been made raw, a triangular piece removed, and union secured with but slight deformity. I consider grafting for the restoration of an auricle in its infancy.

Drooping of an ear and the adhesions of an auricle to the scalp are easily obviated and should not be overlooked.

3d. The removal of nævi, warts, moles, hairs, pigmentary deposits, cicatrices, alveola, fistulæ, enlarged glands, or anything abnormal other than that of malignancy that may appear upon the face and neck.

In these it is always entirely for cosmetic effect that their removal is resorted to. However, some of them are not unfrequently the origin of malignant growth, epithelioma being the most common.

Electrolysis.—Now that this has been so perfected and its results so radical and efficacious, and no pain or discomfort experienced, the subjects of such growths are easily induced to submit to their removal. From three to five milliampères will answer to any emergency in the total destruction of hairs, while from ten to twenty will be found necessary to completely destroy nævi, warts and moles.

As to the number of cells required to secure a current of given strength, that depends upon the kind of battery and the length of time in use. The chloride of silver battery is but half the strengh—that is, it will require ten of its cells to generate a current of equal strength as that of the ordinary battery under like circumstances. No current should be applied without being registered by a galvanometer, or, what is more accurate, a milliampermeter, which will enable us to determine exactly the amount of electricity applied.

Pigmentations. — These, being either smooth or elevated, must necessarily be managed differently. Where the pigmentation is smooth and limited to a small area, total excision is no doubt the most radical measure and the cicatrix smaller; but when there is more or less elevation, electrolysis is the most satisfactory way of removal. In a few cases, however, where there is no elevation, this course may also be followed with satisfactory results. In this event the strength of the current need not exceed one-half that used in destroying warts or moles. As in the former, the object is not to destroy tissue, but to so act upon the structures of the skin as to discontinue the deposit of pigment cells. When a wart or mole is to be removed, something more is necessary—*the destruction of tissue*—which will require double the amount of electricity.

Cicatrices of any kind that are irregular or elevated, making the outline of the face appear broken, should be removed, as should alveola and fistulæ also, so that the line of union should be linear and correspond to the folds of the skin. In this way many lines of union are completely hidden or remain unnoticed.

Glands, when enlarged, should be excised before suppuration occurs, no gland being allowed to remain until it degenerates into pus. Poultices and the various applications should no longer be tolerated by the profession as means of either relief or cure. They are only means of inconvenience, expense and torture, that should be placed upon a shelf too high to be reached and allowed to become musty from old age and disuse. We have all seen the havoc as the result of neglect in cases of enlarged glands.

As to asepsis, I do not think that that is anything more than absolute cleanliness, secure it as you may. There is no question but that it should always be accomplished. Just what advantages the natural chlorides will have remains to be seen. I mean by natural chlorides the new solutions that are made to represent the cutaneous secretions, such as that known as perspiration, which contains about one-half per cent. of sodium chloride. By the use of such a solution the raw surfaces are to be irrigated constantly, thereby promoting a more certain and rapid reparation process.