

THE CLOSURE OF THE WOUND AFTER THE RADICAL AMPUTATION OF THE BREAST.

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HAVING recently had occasion to do three radical amputations of the breast for carcinoma within twenty-four hours, the method of closing the extensive wound was brought up for discussion by one of the assistants, who expressed surprise at the method I employed. The method is the one I have used in all my cases, with slight modifications, during the past ten years. To quote from an article by J. C. Warren of Boston: "The closure of the wound in this operation has always been a difficult problem, since it has been decided that the whole integument of the breast should be included between the incisions. Any method which permits of an easy approximation of the edges of the wound is out of date. The method of grafting adds materially to the length of the operation and leaves a most unsightly scar. The removal of the breast is at best a demoralizing ordeal to most patients, and every effort should be made to procure as rapid healing and as little unsightly a cicatrix as possible." Halsted, on the other hand, says: "To attempt to close the breast wound more or less regularly by any plastic method is hazardous and, in my opinion, to be vigorously discountenanced. The oval flap, whatever the direction of its long axis, removes, so far as the cure of the disease is concerned, a circle of skin whose diameter is not greater than the short axis of the oval. I still believe in the removal of a very large circle of skin and endorse the remark of my ex-house surgeon, Dr. Follis, that the operator whose duty it is to close the wound should not be entrusted with the planning of the skin incision." Halsted acknowledges that the grafting does interfere with very early arm movements.

The two opinions quoted above represent fairly well the diverging views still held in regard to closure of the wound after the radical operation. We believe the opposing views can be harmonized. No one will gainsay that a grafted area after breast amputation tends to form an unsightly scar. I have seen such scars months later, and they are not things of beauty. On the other hand, it will be said that we are not doing a cosmetic operation, but a deliberately mutilating operation designed to permanently cure an extensive carcinoma. Perfectly true; just as it is perfectly true that a large circle of skin should be removed with the breast. But are we justified in concluding from these premises that we must use grafts to cover such an area, that we must unnecessarily prolong the length of the operation, that a plastic operation is to be deprecated and that our unfortunate patient must carry around a most disagreeable scar? Such would seem to be the conclusions of those who, as a routine procedure, without attempting to close the wound completely, regularly use skin grafts in every operation of this kind. The writer rather tends to agree with the views of Warren, that the removal of the breast is a sufficiently demoralizing ordeal to warrant our making every effort, *consistent with the safety of our patient*, to bring about a speedy recovery with the best possible cosmetic result. In so doing we would not save the smallest piece of skin that we thought ought to be removed with the tumor. We believe in and practice a very wide excision of skin, together with breast, tumor, pectoral muscles and lymphatics. We do not allow ourselves to be influenced, when making the original incision, by any fear that we may not be able to subsequently close the wound. Our excision of skin is just as extensive as that practiced by those who graft in every case. It has frequently happened to the writer that an assistant or onlooker has expressed the opinion that it would be impossible to close the enormous wound without grafting. And yet during the ten years that we have practiced the radical operation we have in every case been able to cover the denuded area by transplanting the breast from the oppo-

FIG. 1.



First dressing after radical amputation of breast, six days subsequent to operation. The right breast before operation was almost in the axillary line. At the completion of the operation part of the breast overlapped the median line,—it has already been somewhat drawn back to the right side. Note distance of shot and plate sutures from edges of incision. Note supraclavicular drain emerging from stab wound.

The dotted line represents the usual incision,—it is carried around the lower border of the breast in the shape of an ellipse.

site side. No one, we believe, will deny that if we are able to close the wound in this way the resulting linear scar will be far more pleasing to the patient than a broad grafted area. Quite recently a private patient, an unmarried lady of 39, on whom the writer had performed this operation over six years ago, presented herself for observation. The wound had healed by primary union and the resultant linear scar was scarcely noticeable.

The incision is represented by the dotted lines in the illustration (Fig. 1). If the supraclavicular glands are to be removed through the same incision then the racquet-shaped incision rises more vertically upward towards the clavicle. In some cases these glands are removed through a separate incision. We always remove both pectoral muscles *in toto*. We begin our dissection by dividing the tendon of the pectoralis major, then dissecting backwards, remove axillary contents with the muscles, tumor, and breast all in one piece. By undermining the opposite breast and using shot and plate sutures any defect can be completely covered. The opposite breast is usually flabby and there is much redundant skin, so that the technical difficulties are usually not great. In several cases the nipple of the opposite breast at the end of the operation was in the median line; some part of the opposite breast regularly overlaps the median line. But so great is the elasticity of the skin that in a few weeks the breast has returned almost to its normal position. Furthermore, in many cases, the breast will be so flabby and pendulous that the nipple is almost in the axillary line before we begin our suturing. In such cases, at the end of a few weeks the breast will be found in a perfectly normal position, in spite of the fact that it was drawn over to the opposite side to cover the defect.

In mobilizing the breast a few free incisions are made behind the breast, the edges of the incision being forcibly pulled away from the chest wall. Much of this dissection can be done bluntly; a few vessels require ligation. The dissection, blunt or sharp, proceeds between the posterior surface of the breast and the fascia covering the pectoralis major.

The fascia itself should not be injured, but the loose areolar tissue between this fascia and the breast should be divided. This can be done in a few minutes; and the skin flap towards the axilla on the affected side, where the dissection has already been done, is freed as far out as possible. This should be especially thoroughly done at the lower angle of the wound, as it is near the lower end of the denuded area that most tension is usually encountered in passing the sutures. Two assistants now forcibly adapt the margins of the wound, and the amount of tension can then be readily ascertained. If necessary, the skin can be mobilized in a similar manner below the lower border of the incision; we have done this in most of our cases and it has helped us to close some wounds which we would otherwise have been unable to close. In one case where on account of the size of the tumor an unusual amount of skin had to be sacrificed, after mobilizing the opposite breast, we made two horizontal incisions, one above and one below the breast, and we were then able to bring (slide) the breast well over to the opposite side and thus close the enormous defect. But this procedure will rarely be necessary. It is really surprising how readily the usual defect can be covered by the above method. We use two or three shot-and-plate sutures and are careful to place them two and a half or three inches from the margins of the wound on each side. Since using a small thick pad of gauze between the lead plate and the skin, we no longer see the little area of necrosis due to pressure of the plate against the skin. Heavy silkworm is used for this suture, a perforated lead bullet is fastened to the end of the suture, then comes the perforated lead plate with edges slightly turned up away from the skin. The free end of the suture to which the needle has been added, is passed through the centre of the small gauze pad. This pad should overlap the edges of the lead plate at least a quarter of an inch all around. The needle is then passed through both skin flaps at some distance from the edges. Without unthreading the needle, it is passed through a second gauze pad which is pulled down close to the skin. The needle is then removed and the silkworm suture

passed through the lead plate and lastly through the perforated bullet. An artery forceps is placed on the end of the suture and the other tension sutures are passed in a similar manner. These sutures are prepared before the operation, and take but a minute to apply. An assistant forcibly approximates the edges of the wound by crowding the breast over towards the affected side. The operator quickly adjusts the shot-and-plate sutures, and a running suture of fine silk accurately brings together the edges of the skin. The arm and shoulder portions of the incision can be partly approximated with strips of Z. O. plaster. Drainage is provided for in the usual manner by a tube introduced through a stab opening low down in the posterior axillary line. If the supraclavicular glands have been removed without making a separate skin incision, this space is drained through a small opening in the skin above the clavicle. The first dressing is done on the sixth or seventh day and all sutures are then usually removed. After removing the sutures we are accustomed to keep the skin edges approximated with numerous strips of Z. O. plaster.

This simple method of wound closure has been so satisfactory in our hands, and so gratifying to our patients, that we feel justified in recommending it to others.