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Massive Postmastectomy Lymphoedema of the Upper Limb. Role of Surgical Resection in Improving the "Psychological" Status

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We report a rare presentation of massive lymphoedema of the ipsilateral upper limb following radical mastectomy which had impaired the function of the limb and the psychological status of the patient. We were able to excise the entire lymphoedematous tissues reaching down to the muscles. A spilt skin graft was used to cover the area. The post operative period was uneventful and the patient showed significant improvement.

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Postoperative ipsilateral lymphoedema following mastectomy is not uncommon. An incidence ranging from 10–28% has been reported[1,2]. Although this used to be common when radical mastectomy was the surgical treatment of choice, it is also seen following breast and axilla sparing operations. The treatment in these cases would depend on the stage of the lymphoedema[3]. We report a case of massive postmastectomy lymphoedema treated by surgical resection which has resulted in improvement of the function of the limb and psychological status of the patient.

THE CASE

A 60 year old female underwent radical mastectomy and complete axillary clearance for a T2 N1 MO infiltrating carcinoma 12 years ago. The postoperative period was punctuated with recurrent attacks of lymphangitis. She also received radiotherapy to the chest wall and the axilla. A complete course of Cyclo-phosphamide Methotrexate Fu (CMF) chemotherapy regimen was also given. Two years following the surgery she noticed an increase in the size of the affected upper limb which progressed steadily and assumed gigantic proportions. The upper limb was so heavy that the patient could not move it unaided, which resulted in severe functional disability and it was impossible for her to carry out the daily activities (Figure 1).

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Figure 1. Appearance of the right upper limb showing massive lymphoedema.

Figure 2. Healthy muscle bed after excision of the lymphoedematous tissue.

There were also recurrent episodes of skin breakdown, ulceration and bleeding. Conservative medical treatment did not offer any relief to the patient. Prior to her presentation she had a lymphangiogram which showed lymphatic obstruction as there was no colloid uptake in the following 24 hours. The size and the unpleasant appearance of the limb had a tremendous social impact on the patient to the point of isolation and living in seclusion. Both the patient and her family requested amputation of the limb to alleviate her hardship and the ridicule caused by the "unwieldy and useless" limb. The need for preservation of the otherwise health limb was explained to the patient and she agreed for the debulking procedure. The lymphoedematous tissue was excised down to the healthy muscle bed (Figure 2). The skin and subcutaneous tissue were very thick and at places measured more than 15 cm (Figure 3). The total weight of the excised tissue was 20 Kg. The exposed healthy muscle bed was split skin grafted. The dorsum of the hand and the flexural surface of the elbow were covered with a sheet of split skin graft; elsewhere 1:3 meshed graft was used. Postoperative period was uneventful. Figure 4 shows the early postoperative appearance of the operated limb. Two years follow up showed good functioning upper limb with no limitation to its full use. We also evaluated her social activities. The patient and her family confirmed her return to normal social life. We did not find any suggestion of any psychological disability to warrant psychological assessment.

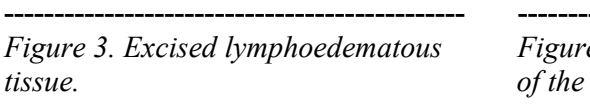

Figure 3. Excised lymphoedematous tissue.

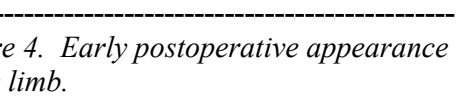

Figure 4. Early postoperative appearance of the limb.

DISCUSSION

Dini et al[1] have enumerated some high risk factors for the development of lymphoedema namely obesity, use of radiotherapy to the axilla, venous outflow obstruction, and delayed wound healing. The most important factor to the development of post surgical lymphoedema is recurrent lymphangitis in the post operative period.

Enrici[3] has described 3 stages of postmastectomy lymphoedema. In stage 1, the lymphatic system is not severely damaged and there is some clearance of the dye on lymphangiography. The hand-axillary ascension time is less than 5 minutes and there is no dermal reflux. In these case the patients will benefit by drainage operation like lymphovenous anastomosis. In stage 2, the lymphatic vessels lose functional capacity and are converted into varicosities. Again, in these cases the patients are likely to improve with compression, physiotherapy and limited excisional surgery. In stage 3, the severity and the chronicity of the disease has destroyed all the possible drainage routes. Although Enrici[3] has suggested only medical treatment for such situation, we strongly feel that radical excisional procedure gives maximum benefit to the patient and the family in terms of physical and psycho-social rehabilitation. Moreover, chronic lymphoedema can lead to development of lymphangiosarcoma[4– 6] and it is therefore advisable to remove the lymphoedematous tissue.

Although some authors have suggested the use of the graft from the excised skin[7,8], Kinnmoth[9] has cautioned against its use.

CONCLUSION

We recommend conservative management for both Stage 1 and 2 lymphoedema. In stage 3 where there is no chance for improvement, we recommend surgery and physiotherapy to restore the function of the limb and improve the patient's social and psychological status.

REFERENCES

1. Logan V. Incidence and prevalence of lymphoedema: a literature review. J Clin Nurse 1995;4:213-9.
2. Dinni D, Gozza A, Silvestro S, et al. Suloxide in the prevention of postmastectomy lymphoedema. Servizio di Rieducazione Funzionale, Instituto Nationale per la Ricerca Sul Cancro, Genova 1995;50:431-4.
3. Enrici EA. Traitement du lymphoedeme post-mastectomie. Phlebologie 1995;2:261-7.
4. Barnett WO, Hardy JD, Hendrix JH. Lymphanigosarcoma following Postmastectomy lymphoedema. Ann Surg 1969;169:960.
5. Benda JA, al Jurf JF, Benson AB.. Angiosarcoma of breast following segmental mastectomy complicated by lymphoedema. Am J Clin pathol 1987; 87: 651.
6. Bowers WF, Shear EW, LeGolvan PC. Lymphangiosarcoma in the postmastectomy lymphoedematous arm. Am J Surg 1955;90:682.
7. Gibson T, Tough JS. A simplified one stage operation for correction of lymphoedema of the leg. Arch Surg 1955: 71:809.

8. McCormack RM. Surgical treatment of post-mastectomy lymphoedema. Plast Reconst Surg 1954;14:62.
9. Kinnmoth JB. Lymphangiography in clinical surgery and particularly in treatment of lymphoedema. Ann Roy Coll Surgeons 1954;15:300.