

Case Study: Silicone Gel Sheeting after Vertical Breast Reduction

Philip Narini, M.D., F.A.C.S., Chief of Plastic Surgery at Lakeridge Health Corp., Oshawa, Ontario

ABSTRACT: Silicone gel sheeting has been used for some time to manage scars. This study was done to determine if silicone gel sheeting would affect the healing of a scar after a vertical reduction mammoplasty. The patient has functioned as her own control, with the treatment of one side and the opposite side functioning as an untreated control. Early results demonstrate improvement in scar appearance, texture, and contour with improved patient satisfaction.

PROTOCOL: This study was done as a pilot study to qualitatively determine if the application of silicone gel sheeting using the Newmedical Technology product can affect scar appearance after vertical reduction mammoplasty. The 20-year-old patient was randomly selected as an average mammoplasty patient with no significant medical problems, as a non-smoker, and no contraindications to the use of silicone gel with no previous sensitivity documented. Scars are simply evaluated qualitatively for visual difference, colour change, surrounding skin changes, and clinically evaluated for texture. Informed consent was obtained from the patient prior to participating in the study.

PROCEDURE: A vertical reduction mammoplasty was performed using standard breast reduction technique with the removal of 416 grams of tissue from the right side and 418 grams of tissue from the left side. The wounds were closed with absorbable monofilament (poliglecaprone) buried 3-0 dermal

sutures and staples. Staples were removed on post-operative day 5 and steri-strips applied. These were removed after one week. Post-operative pictures were taken three weeks after surgery with no significant difference between the two sides. (Fig. 1) Silicone gel sheeting was provided to the patient for treatment of the left side only. No treatment was given for the right side. Treatment side was randomly chosen post-operatively. The silicone sheeting was worn for most of the day and replaced after 7 to 10 days.

RESULTS: After treatment of the left side for seven weeks with silicone gel sheeting, the patient was re-assessed with photos (Fig. 2) and clinical assessment. There was significant less wrinkling of the scar and essentially no redness. The scar was clearly flat and softer. The patient could clearly see a difference and was much more satisfied with the results on the treated side. Due to the dramatic changes demonstrated, the study was discontinued and silicone sheeting applied to the left side (Fig. 3) as well as the right, for on-going scar management.

DISCUSSION: Silicone gel sheeting has had a beneficial effect on the cosmetic appearance of a post-operative scar in a patient undergoing a vertical reduction mammoplasty. Although the mechanism of action has yet to be determined, this pilot study clearly has demonstrated an improvement in scar appearance and patient satisfaction. The patient selected had a modest sized reduction mammoplasty and would be expected to heal without complications. The results seen at 10 weeks post-operatively are somewhat surprising since one would not expect a dramatic change this early in the healing phase. It would be anticipated that scar remodeling would have to take place over many months, with scar maturation to occur, prior to seeing a clinically significant effect from the application of silicone gel sheeting. However, this study has demonstrated an early effect. Certainly, before recommending the widespread and routine use of silicone gel sheeting in reduction mammoplasty, further study is required to investigate the affects on a variety of skin types, reduction size, reduction techniques, and concomitant risk factors. However, this case study is encouraging and suggests that silicone gel sheeting can improve cosmetic outcome and patient satisfaction.

CONCLUSION: This case study has demonstrated significant improvement in the early cosmetic outcome of scars resulting from vertical reduction mammoplasty. Patient satisfaction has also been improved. Consideration may be given to the use of silicone gel sheeting in the early post-operative period.



Fig. 1 - 3 weeks post-surgery; observation of scars on breasts showed no significant difference in scar appearance from one to the other.



Fig. 2 – TREATED LEFT BREAST After 7 weeks of treatment with 1"x6" silicone sheeting strips



Fig. 3 - UNTREATED RIGHT BREAST After 7 weeks with no treatment. Study discontinued so this breast could be treated

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