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PLASTIC, RECONSTRUCTIVE, COSMETIC, AND HAND SURGERY

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RE: S.A.W.
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S.A.W. was born with a giant congenital hairy nevus that covered her entire left hand and forearm in gauntlet fashion. This was dermabraded twice in the first few days of life which significantly decreased the color intensity and some of the hairiness but introduced a scar component and left all the residual, deep nevus cells. Because of the risk of future melanoma conversion from this giant nevus and the deformity of a dark brown hairy arm, this was excised in its entirety in one stage on 6/5/91. Full thickness excision down to the neurovascular level in mid-subcu was carried out and this was grafted from donor sites on both buttocks and hips. The initial split thickness skin graft take looked quite successful. The pathology report, however, showed almost invasive nevus cell positioned deep in the subcu with deep hair follicles beyond the visible ones that were excised. These were left in the base of the subcutaneous tissue that was grafted over with the split thickness skin graft and later they erupted under the grafts. The patient underwent incision and drainage of multiple epithelial inclusion-like cysts on the hand and arm on 10/11/91. At this age also, the split thickness skin graft was thin and difficult to obtain. Areas of residual nevus cell activity and hair follicles and thinner areas of skin graft all hypertrophied in the early postoperative period. Hypertrophic scarring developed in multiple areas of the hand and forearm, particularly the latter.

This was treated by compression therapy. Initially, the classic concept of elastic garments was employed and a custom-made Jobst gauntlet sleeve was applied. This was difficult to fit and to wear and had no effect whatsoever on the hypertrophic scar bands. In desperation, we turned to gel pad therapy in August of 1991. Several techniques were tried. We used the Elastogel pad under the previously fashioned custom fitted elastic sleeve, but the combination was too tight. With pre-planning, however, the sleeve could be fitted over the gel and this is certainly one option for holding the gel in place. Sleeves of Hygi Net and Stockinette to hold the gel were tried and seemed too loose on this patient, but these are also options for this type of therapy. Coban worked well as a wrap but was expensive and difficult to reuse. The most expeditious and comfortable system for the patient (since she wore this for almost a year she and the family developed a good sense of what was convenient and easy) was to simply use an Ace wrap. In fact, she came into the office several times with decorator-color elastic wraps. Her favorite was Day-Glo orange.

Initially we wondered if the gel would be too "sticky" and would be uncomfortable because of that, so we lined the gel surface with thin fabric sheeting. We used Frastec and Owens

Rayon, the Frastec was thinner and a little more open weave and stuck on the gel better. This allowed the gel to move and slide a little. After a trial with and without the liner, however, the family felt that it was just as comfortable without and in fact, the adherence of the gel helped hold it in position, and that was a benefit rather than a deficit. The sense of stickiness on application was not unpleasant. Over time, the gel would accumulate lint and dust and fuzz and in effect, loose its stickiness and act very much as a Frastec coated gel anyway. The gel held up well and the family reported that frequently a single gel pad could be rewrapped and reused for up to 3-4 weeks so this therapy was very cost effective. The child was very cooperative with the therapy and it was obvious that the presence of the gel pad made the scars feel better and allowed her to bump against the arm with much less discomfort and that she was more comfortable with the wrap than without. In fact, at the one year point at which we started tapering off the wrap, one could detect clinically there was a little resistance to giving it up.

There was immediate visible improvement after wrapping with the gel and initially with the scar very active, even a few minutes without the gel, would produce the re-emergence of reactive redness and swelling in the hypertrophic lines. At this age and in this position, it was necessary to maintain the gel pad for almost a full year before the scars flattened and whitened to the point that they remained stable without the cover. Photographs illustrate this progress over one year.

The gel pad was used in this clinical case much as the wadding or compressive layer in a classic Jones wrap: to evenly distribute the outer elastic force. The gel pad, just by its own weight and surface contact and comformability has been adequate compression for hypertrophic scar control in many patients when just taped in place.

ELASTOGEL VERSUS SILICONE SHEETING EXPERIENCE:
We have three patients who used Elastogel and Silicone Sheeting, not simultaneously but sequentially on the same scar site. Their report is that both pads seemed to control the scar hypertrophic tendency in similar fashion but the Elastogel pad had less skin irritation and the Elastogel pad seemed to last longer with less crumbling and breakdown and seemed more durable. The patients preferred the gel pad. We did not do any side by side comparisons. All of our use of the Elastogel pad was as a single feasibility and clinical trial and not a comparative study. We have also compared it to thinner gel pads such as Nu Gel and found that there seemed to be less padding and less compression and protection with the Nu Gel according to the patient reports, and again, the Elastogel pad was more durable, easier to use for the patients and was specifically preferred. These initial impressions would need to be confirmed by formal comparative studies.

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