

sternotomy wounds, and for free revascularized grafts have retained this physiologic function inherent in peritoneum.

Conclusions

The reconstruction of defects of the head and neck, particularly in patients afflicted with Romberg's disease (hemifacial atrophy), can be readily accomplished in reliable fashion by the use of an appropriate free graft of omentum revascularized in its recipient site. Moreover, the inherent capability of omentum to combat infection appears to be retained in such transfers. The intraluminal diameter of the gastroepiploic vessels and the rich vascular supply of the omentum not only permit reliable microvascular transfer but also provide an ideal bed for the take of bone grafts. The technique offers promise for reconstruction of the maxilla.

If a successful vascular anastomosis has been accomplished no resorption of the transferred omentum has occurred for as long as seven years. The technique is reliable and in selected patients promises a predictable method of reconstruction, particularly in the head and neck, where contour and symmetry are critical for an optimum result. Not only can facial contour be restored; enophthalmos can also be ameliorated. A revascularized graft of omentum is considered to be the procedure of choice for treatment of hemifacial atrophy.

DISCUSSION

[The discussion of Dr. P. G. Arnold is omitted at this point because, three weeks after his remarks were mailed to him, we had not received his edited discussion.]

DR. JOHN B. LYNCH (Nashville, Tennessee): I think since Dr. Jurkiewicz reported before this Association the use of omentum for chest wall defects as a transposition flap, and then in this paper reported on some of the unique advantages it has for reconstruction as a free transfer in selected head and neck cases, that they have made a real contribution.

Now, at Vanderbilt we've used the omentum for both of these indications, although admittedly in a much smaller group of patients than the Emory group. Despite the concomitant development of musculocutaneous flaps and a variety of free flaps, I do believe there are some defects that still lend themselves best to reconstruction with this type of use of the omentum.

Now, the author reports no intra-abdominal complications from harvesting the omentum. I will have to tell you that, although I agree that the morbidity is low, we do have one patient who developed a superficial abdominal wound infection, which responded well to simple local drainage.

Now, one question that I would like to pose is that we're always concerned when we think of omentum for reconstruction, and see scars on the abdomen, and get a history of previous surgery, as to whether or not the author has encountered any patient that he might consider omentum reconstruction the procedure of choice, and found the omentum not to be usable, by virtue of scarring, distortion, or other problems.

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In head and neck reconstruction I will limit my comments primarily to contour problems, which is where we have had some experience. The authors point out the unique advantage of the omentum into little fingers, or pseudopods, and provide bulk for reconstruction of irregular defects.

This is a real advantage they don't emphasize, although they're aware of the opposite side of the coin. In thin patients, the omentum can make a very nice transfer for reconstruction of defects where bulk is undesirable. An example is a lady we treated this fall at Vanderbilt who had sustained extensive third degree burns of the face and entire scalp. The outer table of the skull had been removed; the skin grafts had been placed on the inner table. When she was referred to us, it was because of multiple areas of breakdown in the scalp scar, secondary to minor trauma.

In this patient no local flaps were available. The transfer of any of the free skin flaps, or free musculocutaneous flaps, for a defect this large would clearly have transferred too much bulk. In her case, the use of a free omentum on a microvascular anastomosis to cover the skull, followed by a skin graft, provided a very nice mechanism for a one-stage reconstruction that enabled her to proceed with the early wearing of her hairpiece.

Now, the authors report on the use of this procedure in Romberg's, which is, I think, very important. We have had the opportunity to take care of six of these patients. In one of these the Coup De Sabe deformity was quite localized, and limited to the forehead, and lent itself well to local excision. In one other patient the defect extended into the scalp in a young girl, producing a large bald area, and was treated with serial excision and advancement of hair-bearing scalp flaps.

I do agree with Dr. Jurkiewicz that in the advanced case, where there is extensive involvement of the cheek, nasolabial area, upper lip, and chin, that the free transfer of the omentum, because of the ability to sculpt these little, individual islands of tissue, provides the best results that we have available at the present time. In fact, prior to the use of this kind of technique, treatment of these patients with conventional dermal flaps, dermal fat flaps, and so forth produced such poor results that a series of very enthusiastic papers appeared some years ago on the use of injectable silicone, and it appeared that this might offer some rather unique advantages for correction of this one specific defect.

Unfortunately, the early clinical trials were not adequately documented. The complication that we know occur were not adequately documented. So a new study, multicenter, national prospective protocol was developed. The protocol called for licensing a limited number of clinical investigators to evaluate the injection of liquid silicone in this one isolated deformity. A three-year period was allotted for treatment of patients, and at that time a seven-year moratorium was to be observed, where no new patients were entered into the study, and to provide a ten-year period for evaluation.

Dr. Jurkiewicz was one of the clinical investigators licensed for this study, and during the period that he is reporting on he has had an opportunity to use as an alternative liquid silicone; and I think all of us would be interested to know if he is at liberty to share with us any thoughts or experiences, since if there is any indication at all for the injection of liquid silicone, this is supposed to be it.

In summary, I think this paper does document some unique advantages for the use of the omentum as a free flap in selected head and neck defects.

DR. MAURICE J. JURKIEWICZ (Closing discussion): I shall answer Dr. Arnold's question about weight gain first. We have not seen any incongruent weight gain in these patients. Should the patient gain weight, as in the one patient shown, the weight gain seems to be

consistent with the gain in other parts of the body. It may be that in the male there is a differential weight gain in the omentum over subcutaneous fat. We have not observed this, however in our patients.

The second question, by J. B. Lynch—is the omentum not useable when there have been prior abdominal operations? The only instance that we have encountered where we could not use the omentum was in a patient who had a form of lipodystrophy that was progressive and congenital. In such patients there is an absence of fat in the entire upper half of the body including bilateral atrophy of the subcutaneous fat in the face. In these patients, there simply isn't any omental fat whatsoever; rather the omentum is simply a glistening peritoneal membrane.

As far as the injectable silicone is concerned I can only report to you my own observations. The national collaborative study is on-going and those data are not complete.

(slide) We've treated five patients with free flaps of omentum and five patients by injectable medical grade silicone. This young woman has been treated over the past several years by a series of liquid silicone injections for hemifacial atrophy of ten years duration. As you can see she has erythema and edema in the affected part. The disorder is inflammatory in nature, without systemic signs and is cyclical.

The patient has responded to antibiotics and/or steroids just as this patient, (slide) again treated elsewhere with injectable silicone.

[Slide] This is a disease of the young. It can occur in patients as young as six years. As you can see this child has an advanced problem already. (slide) I just don't believe that the injection of any alloplastic material is indicated in patients this young and I doubt seriously that it is a good idea in any patient.

Although ours is not a randomized series the patients were given an option, either to enter the protocol in the study or have an operation. It would seem that the immediate results are equal as far as esthetic improvement in the patient. Having seen those two complications, attendant upon this injection of silicone, as opposed to the one minor complication with the omentum, I am convinced that treatment by revascularized free grafts of omentum is safe and reliable.