

foreign body granuloma, one due to haematoma (and ruptured implant) and the last due to malposition. All were replaced with the same type of implant.

At one year follow-up, all breasts have remained soft (Baker I). No infection or rash has been registered.

Berrino, whatever PU implant he used, apparently did not see any contractures. He emphasises that malposition and extrusion are unlikely to happen with PU implants. These qualities are important. On the other hand, these implants are more difficult to implant and to remove and have a late infection rate higher than that of smooth implants. The foreign body reaction is significant and will occasionally lead to implant removal. Rare complications that we never (?) see with other implants can occur.

Do the benefits of the PU prosthesis outweigh its drawbacks? Only the experienced user can answer this. However, there is no scientific evidence that PU implants represent a hazard.

Berrino *et al.* have presented their valuable experience to use in an honest way but their study does not form the basis of a warning.

Yours faithfully

Erik Dillerud, MD

Bombakken 4,
1324 Lysaker, Norway.

References

- Argenta, L.C., VanderKolk, C., Friedman, R.J. and Marks, M. (1985). Refinements in reconstruction of congenital breast deformities. *Plastic and Reconstructive Surgery*, **76**, 73.
- Brody, G.S. (1986). The clinical science of mammary prostheses. *Advanced Course on Plastic Surgery of the Breast*, Santa Fé, September 2-5.
- Dolsky, R.L. (1985). Polyurethane-coated implants. *Plastic and Reconstructive Surgery*, **76**, 974.
- Herman, S. (1985). Infection surrounding meme implants. *Plastic and Reconstructive Surgery*, **75**, 926.
- Schatten, W.E. (1984). Reconstruction of breasts following mastectomy with polyurethane-covered, gel-filled prostheses. *Annals of Plastic Surgery*, **12**, 147.
- Shapiro, M.A. (1986). Concepts and technique in using the new meme prosthesis. *Plastic and Reconstructive Surgery*, **77**, 499.

Reply from Dr Berrino

Sir

Dr Melmed's and Dr Dillerud's letters on our article need to be discussed separately. With regard to Dr Melmed's letter, the following points require to be clarified further:

1. In Case 1 the prostheses were not placed "in the presence of a conspicuous haematoma" as Dr Melmed claims. The experienced general surgeon who performed the operation states that the haematoma and

subsequent cutaneous problems developed as unexpected complications in the postoperative period. It is probable that if smooth prostheses had been inserted, the patient would have recovered uneventfully following implant removal, and secondary submuscular reconstruction could have been satisfactorily carried out at a later date. Instead, multiple fragments of infected polyurethane remained incorporated in the surrounding tissues, requiring excision of portions of the underlying fascia and muscle, thus strongly jeopardising subsequent reconstruction. Even if one can disagree with the initial decision to place the implants subcutaneously, the long-lasting complications observed in this case were directly related to the polyurethane cover of the prosthesis rather than to "questionable surgical judgements" since they could not have occurred with smooth implants.

2. As we have previously reported (*Tumori*, 1984, **70**, 451; *Plastic and Reconstructive Surgery*, 1985, **76**, 639; *Scandinavian Journal of Plastic and Reconstructive Surgery*, 1986, **20**, 89; *Aesthetic Plastic Surgery*, 1986, **10**, 237) and also stated in this paper, we always place breast implants in totally submuscular pockets: in Case 2 the prostheses were placed in subpectoral/subserratus muscular pockets. Fluid collection drained through the muscular coverage to the skin. We did not describe polyurethane fragments in the subcutaneous tissue, as Dr Melmed claims. Guthrie (1984) observed similar soupy fluid collections around polyurethane prostheses, while no description of such occurrence exists with the use of smooth implants. This delayed complication was therefore due to a reaction to polyurethane in the absence of infection rather than to a "questionable surgical technique", as Dr Melmed asserts.

Dr Dillerud's letter requires individual point-by-point discussion:

1. Meme and Optimam prostheses have been mainly utilised, depending on the surgical problem and on their availability at the Centres where the operations were carried out. Natural Y Optimam prostheses had been utilised in Cases 1 and 2.
2. No antibiotic solution was used for soaking but nevertheless an itching rash appeared in some patients; this was also experienced by other authors (Eyssen *et al.*, 1984; Guthrie, 1984). An itching rash requires specific treatment and therefore is to be considered a complication; moreover, the appearance of a rash as an early reaction is to be noted since it could precede a delayed reaction as observed in Case 2 and also reported by Guthrie in various patients. Jabaley and Das (1986) also described a rash as an early complication in a patient who developed late breast pain and tenderness requiring implant removal. We think that this observation deserves some consideration although it needs to be investigated further. Some well known series with low rates of complications

have been mentioned by Dr Dillerud: other surveys and reports could be mentioned (Eyssen *et al.*, 1984; Guthrie, 1984; Umansky, 1985; Wilkinson, 1985) with much less favourable outcomes. As Guthrie states, "we recommended polyurethane-covered prostheses in the past and no longer use them . . . unfortunately over a period of time we have become aware of problems which we feel outweigh the advantages".

3. As discussed in the comments to Dr Melmed's letter, the long-lasting complications observed in the reported cases could not have occurred with other types of implant. We agree with Dr Dillerud that the incidence of complications in the series we have presented is not high (however, it must be noted that aesthetic problems had been deliberately excluded from consideration); the severity of the reported complications and subsequent deformities are much more relevant than their frequency and should be taken into consideration when selecting an implant in "elective" plastic surgery.
4. Difficulties in completely removing the capsule have been repeatedly mentioned in the literature: "after one to two weeks there is sufficient tissue ingrowth that the implant cannot be removed intact" (Brody, 1984); "fibrous tissue ingrows between the implant and the polyurethane-coverage" (Jabalay and Das, 1986), which undergoes fragmentation and incorporation in foreign body granulomas. The thick inflammatory periprosthetic capsule is not compact since it is made of microcapsules which are firmly adherent to the surrounding tissues. Complete removal of the capsule together with the implant by blunt dissection, as suggested by Dr Dillerud, is by no means an easy task since a cleavage between the capsule and the surrounding tissue does not exist. Schatten (1984) suggests a similar blunt dissection which "affords easy removal of the gel implant" but he does not remove the polyurethane capsule "since it is difficult to dissect it from the overlying skin".

In his personal experience Dr Dillerud reports that he has used polyurethane-covered prostheses exclusively for augmentation and correction of congenital breast deformities: how can he perform such a radical and traumatic *en bloc* capsulectomy through the minimal incisions that should be utilised for augmentation or correction of congenital breast deformities? Does he prolong the incisions? Does he utilise an additional incision if a periareolar or an axillary route has been used for inserting the prosthesis?

Removal of the implant and of all the polyurethane fragments is a difficult and tedious procedure which requires general anaesthesia, especially if the prosthesis has been placed submuscularly and is therefore adherent to the undersurface of the pectoralis major muscle and to the outer surface of the rib cage.

As observed by Baker and Penn (1984), capsular contracture is not a complication but a problem; it is "the

normal response to the procedure"; the incidence of capsular contracture as well as of other aesthetic problems was deliberately omitted since evaluation of the aesthetic outcome was outside the aim of the paper.

We believe that this paper cannot be considered "misleading and erroneous" since the publication of a report implies that the cases described are not typical or common: their description simply demonstrates that they can occur and, furthermore, the observations reported by other authors (Capozzi and Pennisi, 1981; Guthrie, 1984; Pollock, 1984; Umansky, 1985) demonstrate that they are not exceptional.

As noted by Marion (1984), plastic surgery international literature appeared to be lacking in reports focusing on the possible long-lasting complications and subsequent severe deformities which can occur with polyurethane-covered implants: from this point of view our article could well "form the basis for a warning" and should be taken into consideration when selecting these implants as first choice devices. This word of caution was mainly directed to surgeons who enthusiastically approach breast reconstruction as an easy subcutaneous procedure thanks to the advantages and claims made for polyurethane prostheses. Our recent experience confirmed the need for a more cautious utilisation of these implants. We have observed two additional cases of long-lasting complications following immediate subcutaneous placement of polyurethane prostheses after subcutaneous mastectomy and after quadrantectomy performed by general surgeons at other hospitals. The severe deformities observed in these patients were similar to those observed in Cases 1 and 2 and required transposition of a latissimus dorsi muscular flap in association with the use of a tissue expander in one case and transposition of a TRAM flap in the other.

Yours faithfully

Pietro Berrino, MD

Istituto nazionale per la ricerca sul cancro,
viale benedetto XV n. 10,
16132 Genova, Italy.

References

- Baker, J.L. Jr and Penn, J.G.** (1984). Augmentation mammoplasty. In *The Unfavourable Results in Plastic Surgery*. 2nd Edition. Edited by R.M. Goldwin. Boston: Little, Brown & Co.
- Brody, G.S.** (1984). The meme implant—reconstruction of the breast using polyurethane-coated implants (discussion). *Plastic and Reconstructive Surgery*, **73**, 420.
- Capozzi, A. and Pennisi, V.** (1981). Clinical experience with polyurethane-covered gel-filled mammary prostheses. *Plastic and Reconstructive Surgery*, **68**, 512.
- Eyssen, E.J., Von Werssowetzn, A.J. and Middleton, G.D.** (1984). Reconstruction of the breast using polyurethane-coated prostheses. *Plastic and Reconstructive Surgery*, **73**, 415.

- Guthrie, R.H.** (1984). The untoward result in breast reconstruction. In *The Unfavourable Results in Plastic Surgery*. 2nd Edition. Edited by R.M. Goldwin. Boston: Little, Brown & Co.
- Jabaley, M.E. and Das, S.K.** (1986). Late breast pain following reconstruction with polyurethane-covered implants. *Plastic and Reconstructive Surgery*, **78**, 390.
- Marion, R.B.** (1984). Polyurethane-covered breast implant (letter). *Plastic and Reconstructive Surgery*, **74**, 728.
- Pollock, H.** (1984). Polyurethane-covered breast implant (letter). *Plastic and Reconstructive Surgery*, **74**, 729.
- Schatten, W.E.** (1984). Reconstruction of breasts following mastectomy with polyurethane-covered gel-filled prostheses. *Annals of Plastic Surgery*, **12**, 147.
- Umansky, C.V.** (1985). Infection with polyurethane-coated implants (letter). *Plastic and Reconstructive Surgery*, **75**, 925.
- Wilkinson, T.S.** (1985). Polyurethane-covered implants (letter). *Plastic and Reconstructive Surgery*, **75**, 925.

I fully appreciate that it is nowadays quite impossible to restrict the practice of all plastic surgery to properly trained plastic surgeons. It may well be that Tagliacotian would not relish my performing some procedure upon him even though I am qualified so to do but I hope that he would be even more alarmed were I to remove his prostate, given that he still has one.

Yours faithfully

David E. Tolhurst, FRCS

Department of Plastic and Reconstructive Surgery,
Academisch Ziekenhuis Rotterdam,
Dr Molewaterplein 40,
3015 GD Rotterdam,
The Netherlands.

Reference

- Tagliacotian** (1987). Thoughts on the Future of Plastic Surgery. *British Journal of Plastic Surgery*, **40**, 323.

In reply to Tagliacotian

Sir

The description by Tagliacotian of the correspondence which followed my letter to the Annals of the Royal College of Surgeons of England (January 1986) as petulant, is quite inappropriate and, I presume, occasioned by his being at a loss for the *mot juste*.

But I must not be unfair and puzzle him with foreign languages when he has such difficulties with his own. Perhaps the second sentence of his second paragraph is a misprint and should have read: "This epistle contained a warranted attack on a poorly considered paper written by two general surgeons . . ."

To suggest that the correspondence was fatuous implies that the Editor of the Annals made a bad decision in publishing it. Surely the random scribbblings of Tagliacotian can hardly measure up to the sagacity of Mr Kirk who, incidentally, has no need to hide behind a *nom de plume*. I am glad, however, that Tagliacotian recognised my letter as contentious, for this it was intended to be. On the other hand he has clearly missed the point if he imagines that the letter was written to improve the image of plastic surgeons. It was written to draw attention to our plight, with which the second half of Tagliacotian's letter deals, and in so doing reiterates my thoughts on the subject. If no-one dares raise their voice about this matter there will be no future for plastic surgery. Years ago people went about saying "Let our results speak for themselves". They have, but it seems to the wrong audience who now are trying their hand at our work. Is this good or right? I venture to suggest that it is not and I hope to alert our colleagues to the dangers inherent in this situation.

Sir

This avid and long-time dermatologic surgical reader of the British Journal of Plastic Surgery found it marvelously exhilarating that the Trustees of the British Association of Plastic Surgeons would make the statement "there is no proscription right bestowed upon us to claim technical expertise as our own and belonging to no other". If all your compatriots thought that, and were gentlemanly, many of our mutual professional difficulties would disappear. If plastic surgeons did not confront their brethren with a "holier than thou" countenance of infallibility much unpleasantness would evaporate. This problem is accelerated by your brethren's knowledge that plastic surgeons do not do God's perfect surgical work at all times. None of us can claim that holiness either as individuals or by specialty.

I have the strongest hopes that practitioners of plastic surgery would keep themselves "in the forefront of technical advance", thus assuring the survival of your specialty.

Unfortunately in the United States a few plastic surgeons have embarked upon a course of deliberately and maliciously precipitating lawsuits against members of other specialties. This will bring mayhem everywhere as others gird for similar attacks in retaliation. I hope these extremes do not cross the ocean, and I believe the awareness of the Trustees of BAPS will be of import.

Yours faithfully

Lawrence M. Field, MD, FIACS

Dermatologic Plastic Surgery Clinics of California,
84 Santa Rosa Street,
San Luis Obispo,
California 93401, USA.