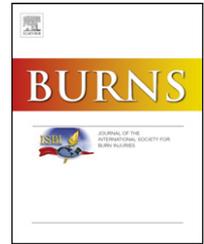


Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/burns](http://www.elsevier.com/locate/burns)

## Letter to the Editor

### The ultra postage stamp skin graft



After devising the mesh skin graft in 1964 (Zimmer Manufacturing Co, Warsaw Indiana), we realized that the traditional meshing of autografts frequently was still insufficient for extensive burn skin defects.

Soon after, we experimented with a derivative of the mesh skin graft by remeshing a meshed skin graft as published in PRS Sept 1966 [1]. So we obtained innumerable small skin islands attached to a 3M micropore paper tape (Minnesota Mining and Manufacturing Company, St. Paul, Minnesota), all correctly oriented, regularly distributed and ready to be applied over an appropriate burn wound. The method lets you save time and labor. The expansion reaches easily 1–9. The technique has been reliable in our hands. The “learning curve” should be minimal.

We called it the “Ultra Postage Stamp Skin graft”, but regretted that the burn community has never shown any interest in this technique.

On the other hand we are happy to notice that recently several articles report on the beneficial results of another expansion technique, the “modified Meek micrograft” method as introduced by Kreis et al. in 1993 [2] in the treatment of extensive burns.

Nevertheless we have to mention that the “Ultra Postage Stamp Skin graft” technique does not require new equipment, allograft or a specific expandable gauze.

#### REFERENCES

- [1] Vandeput JJ, Tanner JC, Carlisle JD. The ultra postage stamp skin graft. *Plast Reconstr Surg* 1966;38(September (3)):252.
- [2] Kreis RW, Mackie DP, Vloemans AWFP, Hermans RP, Hoekstra MJ. Widely expanded postage stamp skin grafts using a modified Meek technique in combination with an allograft overlay. *Burns* 1993;19(2):142.

J.J. Vandeput\*

M. Nelissen

Plastic Surgery, 50 Leopoldsplein, Hasselt 3500, Belgium

\* Corresponding author.

E-mail address: [jacques.vandeput@skynet.be](mailto:jacques.vandeput@skynet.be) (J. Vandeput).<http://dx.doi.org/10.1016/j.burns.2017.10.026>

0305-4179/© 2017 Elsevier Ltd and ISBI. All rights reserved.

## Letter to the Editor

### Successful tissue expansion: A question of complication management.



Dear Sir,

We would like to compliment Abellan Lopez and colleagues on their recent article “Tissue expansion of the lower limb: Retrospective study of 141 procedures in burn sequelae”. The authors lined out the difficulties associated with lower limb tissue expansion and provided profound insights in their approach to the problem while supporting their experiences with valuable data from 141 cases.

Tissue expansion in general remains to be a somewhat underestimated treatment for skin lesions, concerning the difficulty of the surgical procedure itself on the one hand, and its potentials in skin resurfacing if performed correctly on the other hand. Abellan Lopez and colleagues reported a complication rate of only 29.1% and a success rate of 81.6% in their cohort [1]. The authors attributed their results mainly to technical key points such as choice of the correct prosthesis size, location of the internal valve, positioning of the drain and delayed inflation start. We agree with the authors that a well-planned surgical approach with all due patience during the expansion process is crucial for therapy success.

In our own retrospective analysis, the complication rate was comparably higher (36.6%) while the failure rate was as low as 14.1%. However, in a logistic regression analysis we also found that factors which cannot be influenced by the physician contributed to the risk for developing complications. For instance, tissue expansion in women had a 4-fold increased risk for complications as compared to men and older patients were more likely to suffer complications. The likelihood of severe complications was furthermore increased in patients with low BMI whilst low blood pressures were associated with better outcome [2]. In contrast to the recent literature [3], in our cohort burn patients actually had a lower risk for complications [2]. Rather than dividing complications into “major” and “minor” according to Manders et al. [4], we made use of the Clavien-Dindo classification [5] to categorise complications in accordance with their therapeutic consequences. By doing that we intended to illustrate our own complications as objectively as possible. In order to compare our results to those of Lopez, we took the liberty to sort their complications also according to the classification we used (Table 1).

**Table 1 – Classification of complications according to Clavien-Dindo. With the data available, complications could be divided into whether they required revision surgery or not.**

Study	Abellan Lopez et al. [1]	Smolle et al. [2]
Complications/procedures (%)	41/141 (29.1%)	29/71 (20.5%)
Clavien Dindo type III complications (needing revision surgery)/complications (%)	34/41 (82.9%)	21/29 (72.4%)
Therapy failure/complications (%)	26/41 (63.4%)	10/29 (34.5%)

A comparison of our data with that of Abellan Lopez and colleagues revealed two main differences: the minority (6%) of our procedures were done in the limbs, and 80% were scalp expansions. Furthermore almost 2/3 of all our procedures were done to correct posttraumatic deformities, and only 17% were due to burn sequelae. Complications led to therapy failure in 34% (10/29) of complicated procedures in our cohort while the rest could be salvaged, or at least part of the intended scar tissue could be resurfaced with the resulting flap [2]. In comparison 63% (26/41) of complicated procedures in Abellan Lopez's cohort eventually led to therapy failure [1].

To conclude we would like to put emphasis on two key considerations:

- Firstly, even severe complications needing revision surgery do not necessarily result in therapy failure in subcutaneous tissue expansion. Like careful patient selection, also adequate management of complications can improve outcome.
- Secondly, documentation of complications should not only include the type, but also the consequence of the complication.

Once more we would like to congratulate Abellan Lopez and colleagues on their work and hope to hear more from the authors in the future.

### Conflicts of interest

None.

### REFERENCES

- [1] Abellan Lopez M, Serror K, Chaouat M, Mimoun M, Boccara D. Tissue expansion of the lower limb: retrospective study of 141 procedures in burn sequelae. *Burns* 2018, doi:<http://dx.doi.org/10.1016/j.burns.2018.03.021> (Available online 26 July 2018, in press).
- [2] Smolle C, Tuca A, Wurzer P, Spendel SM, Forbes AA, Spendel S, et al. Complications in tissue expansion: a logistic regression analysis for risk factors. *Burns* 2017;43:1195–202, doi:<http://dx.doi.org/10.1016/j.burns.2016.08.030>.
- [3] Bozkurt A, Groger A, O'Dey D, Vogeler F, Piatkowski A, Fuchs PC, et al. Retrospective analysis of tissue expansion in reconstructive burn surgery: evaluation of complication rates. *Burns* 2008;34:1113–8, doi:<http://dx.doi.org/10.1016/j.burns.2008.05.008>.
- [4] Manders EK, Schenden MJ, Furrey JA, Hetzler PT, Davis TS, Graham WP. Soft-tissue expansion: concepts and complications. *Plast Reconstr Surg* 1984;74:493–507.

- [5] Clavien PA, Barkun J, de Oliveira ML, Vauthey JN, Dindo D, Schulick RD, et al. The Clavien-Dindo classification of surgical complications: five-year experience. *Ann Surg* 2009;250:187–96, doi:<http://dx.doi.org/10.1097/SLA.0b013e3181b13ca2>.

Christian Smolle\*

Division of Plastic, Aesthetic and Reconstructive Surgery,  
Department of Surgery, Medical University of Graz,  
Auenbruggerplatz 29, A-8036 Graz, Austria

Daniel Popp

Department of Surgery, University of Texas Medical Branch,  
815 Market St., Galveston, TX 77550-2725, USA

Lars-Peter Kamolz

Division of Plastic, Aesthetic and Reconstructive Surgery,  
Department of Surgery, Medical University of Graz,  
Auenbruggerplatz 29, A-8036 Graz, Austria

\* Corresponding author.

E-mail address: [christian.smolle@medunigraz.at](mailto:christian.smolle@medunigraz.at) (C. Smolle).

<http://dx.doi.org/10.1016/j.burns.2018.09.034>

0305-4179/© 2018 Elsevier Ltd and ISBI. All rights reserved.

## Letter to the Editor

### Tissue expansion of the lower limb: Retrospective study of 141 procedures in burn sequelae



Dear Sir,

We would like to thank the authors for their interesting and valuable comments on our recent published article: “Tissue expansion of the lower limb: Retrospective study of 141 procedures in burn sequelae” [1].

Smolle et al. highlighted some very interesting points in their retrospective study “Complications in tissue expansion: A logistic regression analysis for risk factors” [2].

Smolle et al. sorted their indications into three groups: burns sequelae, post-traumatic defects and congenital defects. These represent quite different nosological frameworks. In our study we assessed the complication rate of tissue expansion a very specific population: burn sequelae. Skin expansion in burn sequelae is a risky procedure because the reliability of scar tissue is unpredictable [3]. We would not be able to extrapolate our results to widespread indications, nevertheless we would like to focus on this challenging problem.