POLSKI
PRZEGLĄD CHIRURGICZNY
2015, 87, 9, 482–483

10.1515/pjs-2015-0092

DE GRUYTER OPEN

LETTERS TO THE EDITOR

Professor Adam Dziki, MD, PhD
Editors of Polski Przegląd Chirurgiczny

Dear Professor Dziki,

We have read with great interest the paper by Krzysztof Szmyt et al. published in Volume 1/2015 of Polski Przegląd Chirurgiczny, entitled "Comparison of the Effectiveness of the Treatment Using Standard Methods and Negative Pressure Wound Therapy (NPWT) in Patients Treated with Open Abdomen Technique", concerning the techniques of temporary abdominal closure (1).

In addition to the recommendations for the application of a temporary abdominal closure technique, we would like to add one more, namely the massive, uncontrollable intraoperative haemorrhage. Such haemorrhages can occur particularly during a liver surgery (especially where this organ is considerably affected by a primary disease) as well as during surgeries on pelvis minor. Unsuccessful attempts to control haemorrhage, combined with the deteriorating haemodynamic condition of the patient, sometimes require, in accordance with the principle of Damage Control Surgery mentioned in the paper concerned, a decision on performing temporary tamponade and temporary abdominal closure. Thus, time needed for the stabilisation of the general condition is obtained, coagulation deficiencies are corrected, and the next surgery under optimum conditions can be performed (2, 3).

The multitude of severe clinical situations posing a great challenge to the surgeon has contributed for several recent decades to the development of various methods for temporary abdominal closure. Currently, we have at our disposal a wide range of methods for deferred abdominal closure: from simple skin closure without suture of other integument layers (4) and using dynamic retention sutures (5), through a closing device such as placing a zipper in the integuments (6), to the vacuum-assisted closure (VAC) system (7). Another method that deserves attention is the so-called Wittmann patch developed by a German surgeon Dietmar Wittmann in 1987 (8). This method involves sewing of patches made of a polymeric material and equipped with hooks and loops (the so-called Velcro material used in hook and loop closures) into the opposite fascia edges. An important advantage of this method is the possibility for gradual moving of the fascia edges towards each other without the need for giving the patient general anaesthesia every time.

A major problem which makes it difficult to compare temporary abdominal closure techniques is the heterogeneity of patients in which these techniques are applied, great differences in the applied indications, and the multitude of technical solutions. In the most comprehensive systematic review covering the years from 1979 to 2009 and assessing 9 techniques, Quyn et al. estimated that the techniques bearing the lowest risk of the development of new intestinal fistulas, and the highest probability of abdominal closure, were the Wittmann patch and the VAC system (3), which confirms the conclusions of Szmyt et al. (1).

Given the fact that many surgical wards still have no VAC system or the Wittmann patch at their disposal, an interesting technique allowing the establishment of conditions similar to those for the VAC technique is a method employed at our centre. The surface of viscera is covered with moist surgical drapes on which drains connected to a suction apparatus are placed, and then covered with another layer of drapes as well as an antiseptic film. Where the indication for the open abdomen technique was not abdominal compartment syndrome, a few sutures may be additionally placed to cover all integument layers along

with the fascia, which protect against the peripheral shrinkage of the fascia edges (fig. 1). A significant element of this technique is to arrange the drains in such a manner that they are at no location in contact with the surface of viscera, as otherwise the risk of de novo development of an intestinal-air fistula would be increased.

In conclusion, we would like to congratulate once again the Authors on the very precious paper on the rarely described and extremely valuable technique applied in particularly challenging patients.

Fig. 1

lek. Justyna Wajda, dr n. med. Andrzej L. Komorowski
Department of Surgical Oncology, The Oncology Centre – Maria Skłodowska-Curie Memorial Institute in Cracow
31-115 Kraków, ul. Garncarska 11

REFERENCES

1. *Szmyt K, Krokowicz Ł, Bobkiewicz A, Cybułka B, Ledwosiński W, Gordon M, Alammari A, Banasiewicz T, Drews M:* Comparison of the Effectiveness of the Treatment Using Standard Methods and Negative Pressure Wound Therapy (NPWT) in Patients Treated with Open Abdomen Technique. *Polski Przegląd Chirurgiczny* 2015; 87 (1): 22-30.
2. *Hirshberg A, Mattox KL.:* Planned reoperation for severe trauma. *Annals of Surgery* 1995; 222: 3-8.
3. *Quyn AJ, Johnston C, Hall D* et al.: The open abdomen and temporary abdominal closure systems – historical evolution and systematic review. *Colorectal Disease* 2012; 14(8): e429-e438
4. *Smith PC, Tweddell JS, Bessey PQ:* Alternative approaches to abdominal wound closure in severely injured patients with massive visceral edema. *Journal of Trauma and Acute Care Surgery* 1992; 32: 16-20.
5. *Koniaris LG, Hendrickson RJ, Drugas G, Abt P, Schoeniger LO:* Dynamic retention: a technique for closure of the complex abdomen in critically ill patients. *Archives of Surgery* 2001; 136: 1359-62.
6. *Leguit P Jr.:* Zip-closure of the abdomen. *The Netherlands Journal of Surgery 1982*; 34: 40-41.
7. *Miller RS, Morris JA Jr, Diaz JJ Jr, Herring MB, May AK:* Complications after 344 damage-control open celiotomies. *Journal of Trauma and Acute Care Surgery* 2005; 59: 1365-71.
8. *Wittmann DH, Aprahamian C, Bergstein JM:* Etappenlavage: Advanced diffuse peritonitis managed by planned multiple laparotomies utilizing zippers, slide fastener, and Velcro analogue for temporary abdominal closure. *World Journal of Surgery* 1990; 14: 218-26.