

A NEW TREATMENT OF THE “OPEN ABDOMEN” WITH CONTROLLED NEGATIVE PRESSURE** AND A NEW DEVICE*

Introduction:

Although negative pressure therapy led to dramatic advancements in case of “abdominal catastrophe” and compartment syndromes, modalities of treatment are barely standardized. With this open case study, we would like to address this issue and offer a clinical procedure using NPWT and a new device: a bi-layered film* that is directly applied onto the omentum.



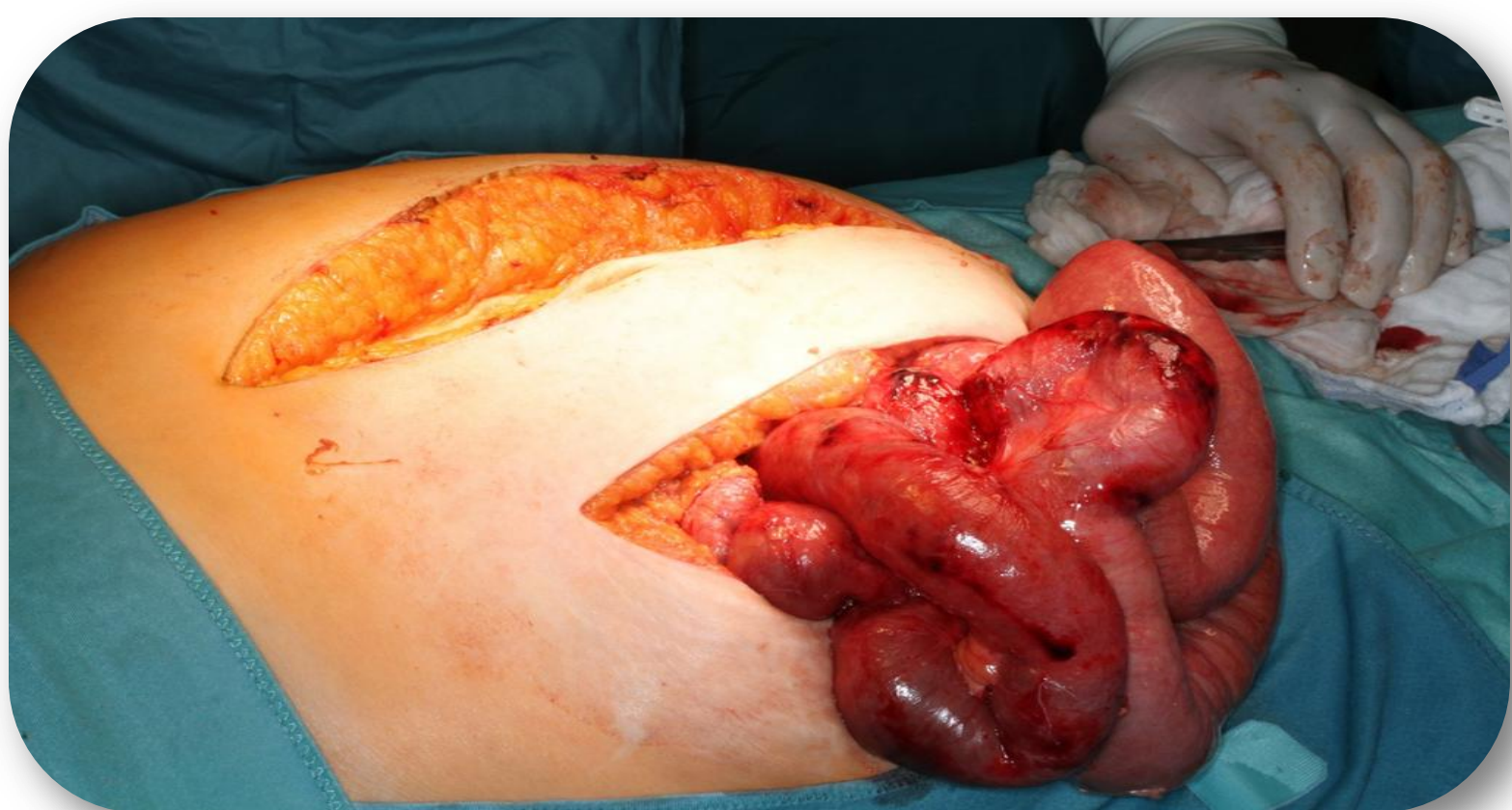
Materials and Methods

This study comprises of 22 patients that suffered from advanced peritonitis/abdominal compartment syndrome. The concept of “damage control” was performed.

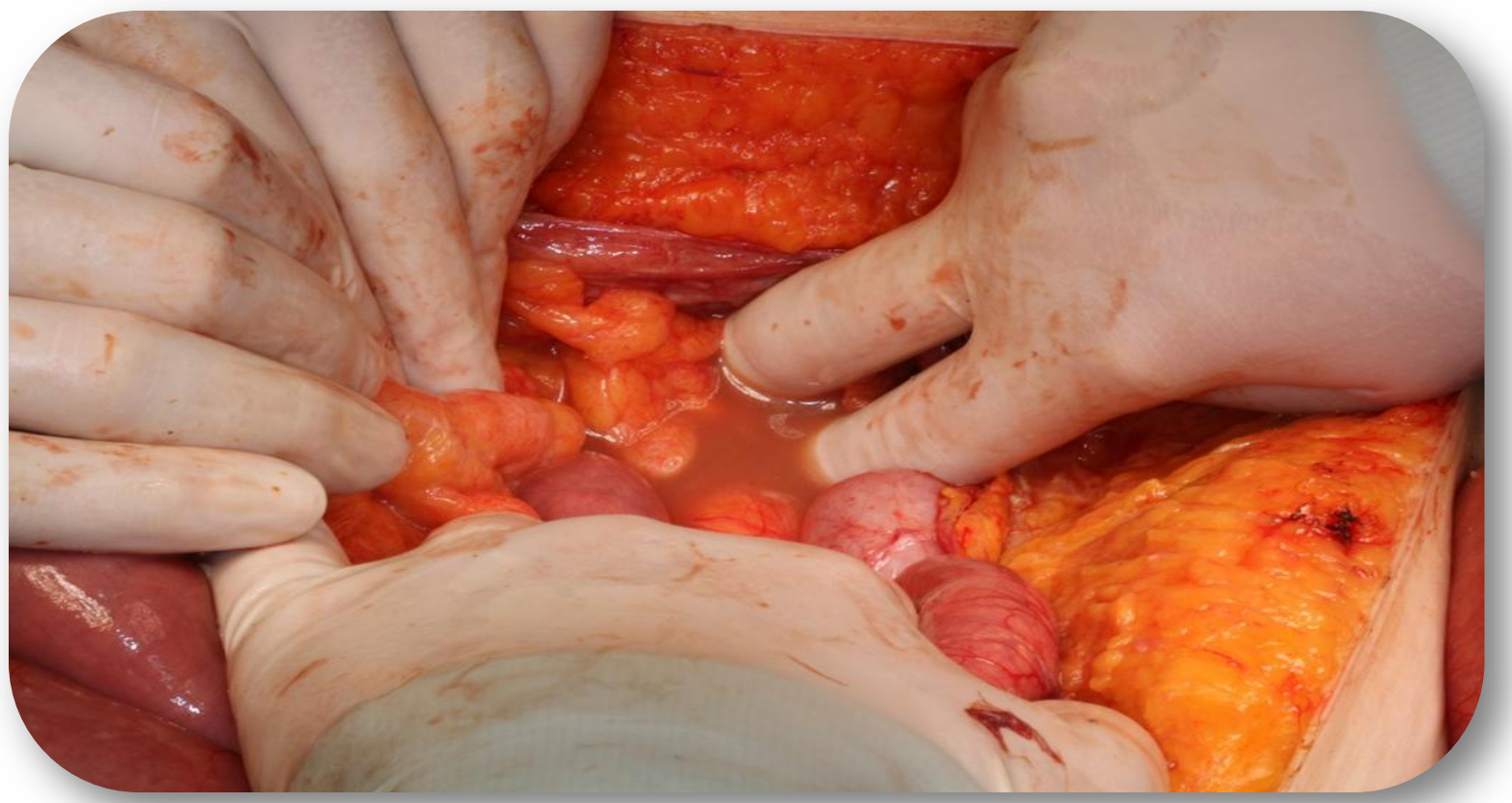
In order to control exudate and to reduce edema, the new film* was applied directly onto the omentum; followed by “filling-up” with PU-foam, occluding with PU-film and application of a negative-pressure** device.

Case example:
Day 1

- 77 years old female patient
- Incarcerated, incisional hernia after pararectal incision, condition after appendectomy
 - Gangrenous colon transversum
- Muddy fecas secretion in the hypogastrium
 - Massif adhesions of the small intestine
 - Abdominal compartment syndrome
 - Adiposis permagna

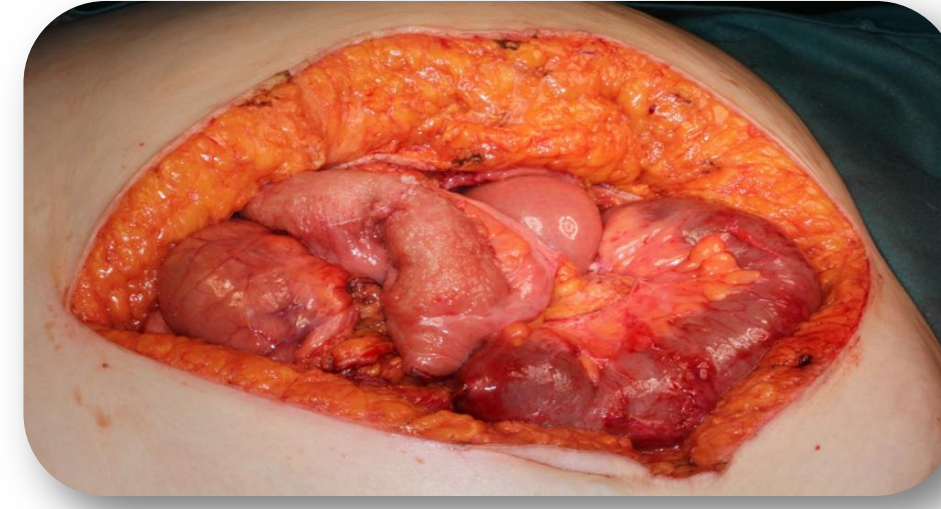


Incarcerated intestine convolute

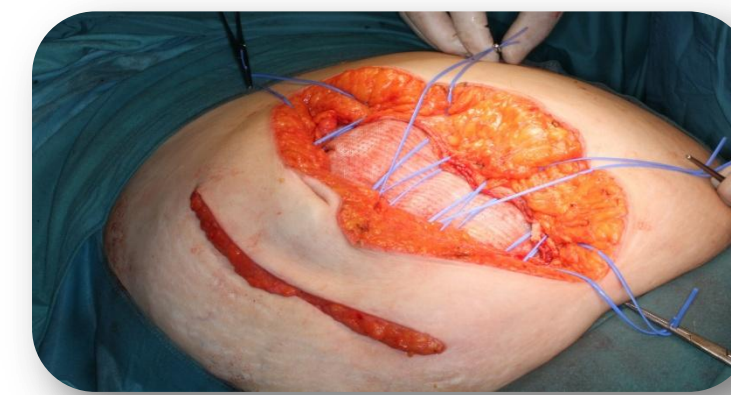


Muddy fecas secretion

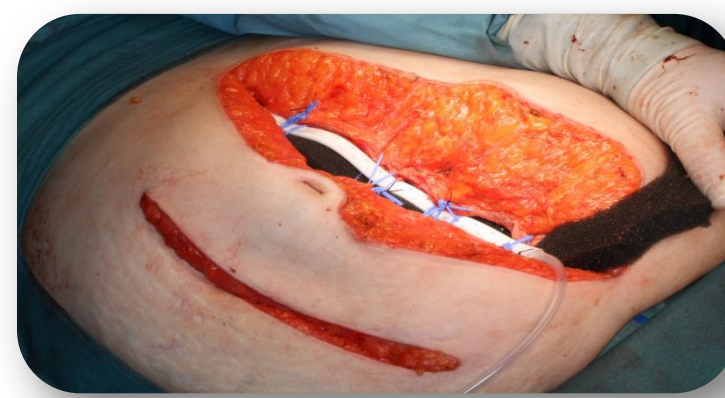
Peritonitis, unclear perfusion:
Indication for CNP**



Adaption of the new film* and application of dynamic fascial sutures



Inlaying the PU-foam and Jackson-Drainage
„Filling-up“ with PU-foam

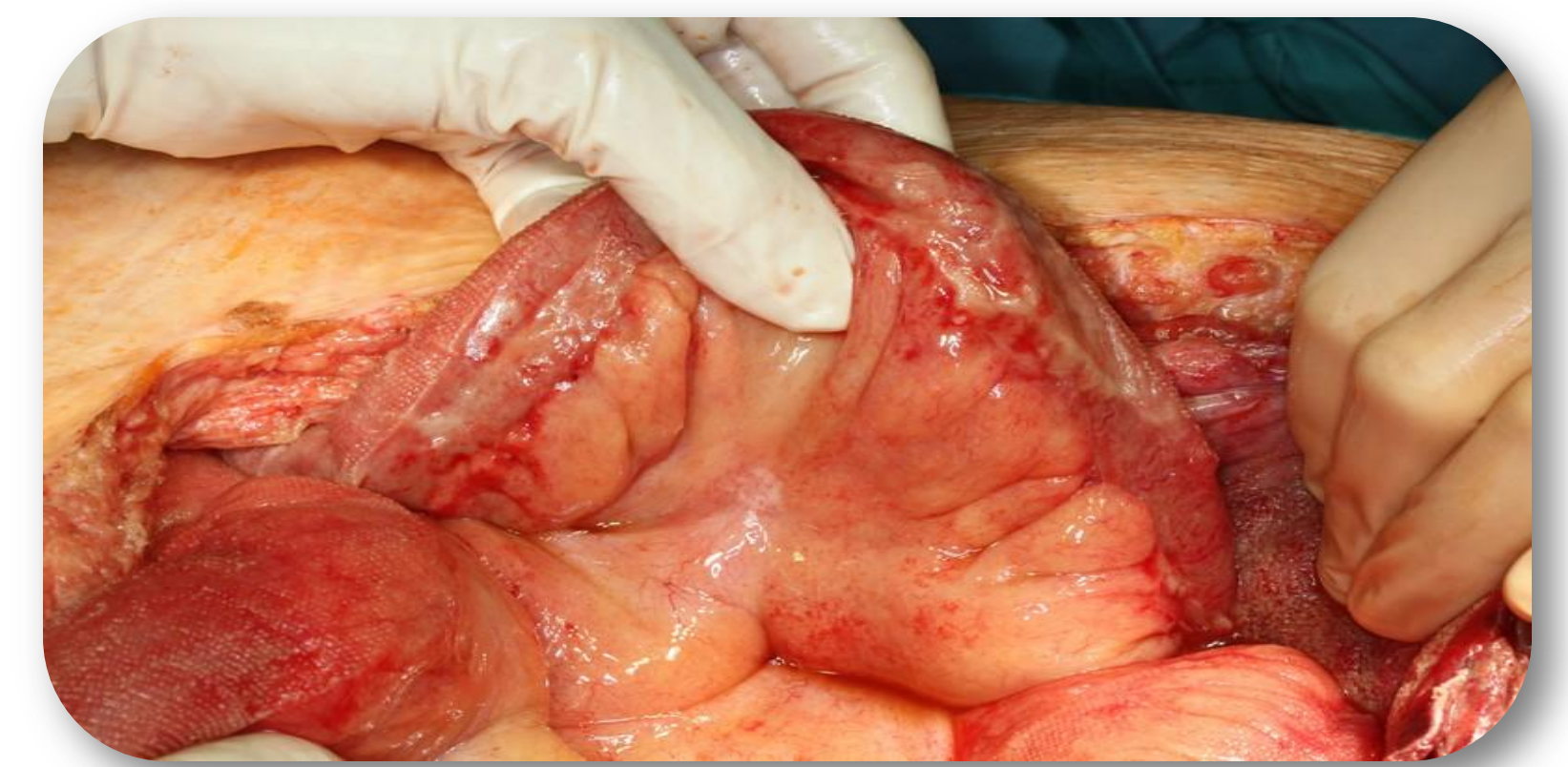


Occlusion with film



Negative pressure:
- 80 mmHg

Relaparotomy after 48 hours:



Distinct reduction of fibrinous layers
No signs of decreased blood supply

Result:

- Successful reconstitution of intestine consistency
- Reapplication of the abdominal negative pressure system
- Scheduled relaparotomy in 48 hours with fascial closure

Results

This new treatment led to impressive results:

- ✓ optimal exudate management: no exudate left, including deep cavities
- ✓ microbial loaded exudate was directly transported through perforations into the inner side of the film* minimizing the risk of spreading infection
- ✓ easy to handle: no adhesion of the film* to intestinal structures
- ✓ primarily closure of the abdominal wall and reduction of secondary healing
- ✓ reduction of mortality down to 13,6%

Conclusion

The implementation of the new bi-layered-film* into the procedure of damage control improves the convalescence markedly: The unique properties of the new device* enable fast closure of the abdominal wall, prompt mobilization of patients, reduce the risk of immobilization consequences, as well as the rate of secondary healing and mortality. Further, the use of this new film* offers great cost benefit opportunities for daily practice.

