

Damage-Control Surgery

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During the last decade a new concept has been developed in trauma care. To understand this „paradigm shift” (W. C. Schwab) we must acknowledge the trauma patient’s primary characteristic which is that of a critical patient with unknown potential, in a state of major imbalance of it’s vital systems and functions.

The term “damage-control” originates from US Navy referring to the ability of a ship to absorb damage while maintaining mission integrity (1). The term was coined in 1992 by Rotondo et al. pleading for restoring as fast as possible normal physiology postponing definitive surgical treatment (2).

Damage-control surgery is a staged approach; the first and the most important being the selection of cases. There are some clues preoperatively (e.g. multiple mass casualties, multisystem trauma with major abdominal injury, presence of sustained hypotension (<90 mm Hg) which hint for the need of abbreviated laparotomy. Intraoperatively, the necessity of damage-control can be imposed because of different situations (e.g. inability to achieve haemostasis, time-consuming procedure, PT or PTT twice the normal, massive transfusions).

Second-stage takes place in the operating room. The surgical procedure is restricted to a bare minimum. The procedure is finalized with a temporary closure of the abdomen

due to numerous factors that makes impossible abdominal correct closure.

Next, the patient is transferred to intensive care unit where active measures for dealing with imbalances.

The final stages are the complete repair of all the injuries while trying to prevent or minimize the complications and definitive closure of the abdomen.

The most important message could be that the decision to resort to damage-control, and implicitly the necessity for abbreviated laparotomy is only partially quantifiable. Abbreviated laparotomy must be chosen before the lethal triad (hypothermia, hypocoagulability and acidosis) sets in. The success rate reported by various authors when applying damage-control surgery can be as high as 60% (3,4). Paradoxically the more serious the patient’s status is the less is undertaken from a surgical point of view. The success of damage-control in trauma has led others to reconsider the concept and to use it in non trauma settings and elective surgery (5).

While damage-control concept is currently used, it must be remembered that one has to take into account also, the new complications or sequels of this approach (most notoriously the abdominal compartment syndrome) (6). Damage-control must be used in correctly selected cases and, we emphasize, not too late when all biological reserve of the patient is exhausted.

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