Until better data is available, the use of the open abdomen (OA) should be carefully tailored to each single patient taking care to not overuse this effective tool, according to an international consensus paper published in the World Journal of Emergency Surgery.

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OA use remains widely debated with many specific details deserving detailed assessment and clarification. To date, in patients with intra-abdominal emergencies, the OA has not been formally endorsed for routine utilisation; although, utilisation is seemingly increasing. Therefore, the World Society of Emergency Surgery (WSES), Abdominal Compartment Society (WSACS) and the Donegal Research Academy gathered a worldwide group of experts in an international consensus conference to review and thereafter propose the basis for evidence-directed utilisation of OA management in non-trauma emergency surgery and critically ill patients.

The OA procedure is defined as intentionally leaving the fascial edges of the abdomen un-approximated (laparostomy). The abdominal contents are potentially exposed and therefore must be protected with a temporary coverage, which is referred to as temporal abdominal closure (TAC). Despite many serious potential complications, the OA is perceived to be a life-saving intervention in catastrophically injured patients.

The WSES recommendations are formulated and graded according to the modified Grading of Recommendations Assessment, Development and Evaluation (GRADE) hierarchy of evidence from the GRADE Group. The recommendations include:

- The open abdomen is an option for emergency surgery patients with severe peritonitis and septic shock under the following circumstances: abbreviated laparotomy due to the severe physiological derangement, or the need for a deferred intestinal anastomosis or a planned second look for intestinal ischaemia, or persistent source of peritonitis (failure of source control), or extensive visceral oedema with the concern for development of abdominal compartment syndrome (Grade 2C).
- The open abdomen should be strongly considered following management of haemorrhagic vascular catastrophes such as ruptured abdominal aortic aneurysm (Grade 1C).
- The open abdomen should be considered following surgical management of acute mesenteric ischaemic insults (Grade 2C).
- In patients with severe acute pancreatitis unresponsive to step-up conservative management surgical decompression and leaving the abdomen open is effective in treating abdominal compartment syndrome (Grade 2C).
Leaving the abdomen open after surgical necrosectomy for infected pancreatic necrosis is not recommended except in those situations at high risk of abdominal compartment syndrome (Grade 1C).

In addition to utilisation recommendations, questions with insufficient evidence urgently requiring future study were identified by the international expert panel.

"Often the OA, particularly if prolonged, results in fascia retraction and consequently in large abdominal wall defects that require complex abdominal wall reconstruction," the panel says. "Moreover, the situation is often complicated by a contaminated field with high risk of infections and wound complications, such as wound infections, seromas, fistula formation, recurrence of the defect, and mortality."

The panel emphasises that every effort should be exerted to attempt abdominal closure as soon as the patient can physiologically tolerate it. In addition, all the precautions should be considered to minimise the complication rate.

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