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Open abdomen and entero-atmospheric fistulae: An interim analysis from the International Register of Open Abdomen (IROA)

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ABSTRACT

Introduction: No definitive data describing associations between cases of Open Abdomen (OA) and Entero-atmospheric fistulae (EAF) exist. The World Society of Emergency Surgery (WSES) and the Panamerican Trauma Society (PTS) thus analyzed the International Register of Open Abdomen (IROA) to assess this question.
Material and methods: A prospective analysis of adult patients enrolled in the IROA.
Results: Among 649 adult patients with OA 58 (8.9%) developed EAF. Indications for OA were peritonitis (51.2%) and traumatic-injury (16.8%). The most frequently utilized temporary abdominal closure techniques were Commercial-NPWT (46.8%) and Bogotà-bag (21.9%). Mean OA days were 7.9 ± 18.22. Overall mortality rate was 29.7%, with EAF having no impact on mortality. Multivariate analysis associated cancer ($p = 0.018$), days of OA ($p = 0.003$) and time to provision-of-nutrition ($p = 0.016$) with EAF occurrence.
Conclusion: Entero-atmospheric fistulas are influenced by the duration of open abdomen treatment and by the nutritional status of the patient. Peritonitis, intestinal anastomosis, negative pressure and oral or enteral nutrition were not risk factors for EAF during OA treatment.

Introduction

Entero-atmospheric fistulae (EAF) are devastating and frightening complications of abdominal surgery in general and are particularly feared in the use of open abdomen (OA) management as part of damage control treatment philosophies. In current practice, the indications for OA are diverse encompassing many forms of severe physiological derangement and injury [1–6]. The World Society of Emergency Surgery (WSES) and the Abdominal Compartment Society (WSACS) thus recently published guidelines and indication for OA management [4,6–8]. Abdominal sepsis and trauma were two of the main indications for leaving the abdomen temporarily open after damage control management [9,10]. Further, a recent consensus conference conducted among an international subject-matter experts suggested the OA as one of potential preferred options in managing patients with severe peritonitis and severe sepsis/septic shock under the following circumstances: “abbreviated laparotomy due to severe physiological derangement, the need for a deferred intestinal anastomosis, a planned second look for intestinal ischemia, persistent source of peritonitis (failure of source control), or extensive visceral oedema

Abbreviations: OA, open abdomen; WSES, world society of emergency surgery; PTS, panamerican trauma society; IROA, international register of open abdomen; TACT, temporary abdominal closure technique; ACS, abdominal compartment syndrome; NPWT, negative pressure wound therapy.

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