A worldwide survey to assess the management of patients with mesenteric ischaemia & intestinal infarction

Background
Acute mesenteric ischemia is a multidisciplinary emergency, requiring involvement of several different medical specialties. Different forms of mesenteric ischaemia are encountered and managed by different medical specialties (e.g. emergency care physicians, vascular surgeons, interventional radiologists, visceral surgeons, gastroenterologists, intensivists). Acute mesenteric ischaemia, when diagnosed late, is often associated with lethal or invalidating outcome. As this disease does not have immediately clear clinical or laboratory phenotype, the diagnosis is not straight-forward, leading to delayed diagnosis and poor outcome.

Pathophysiology of mesenteric ischaemia is similar to acute coronary syndrome, but difficulties in diagnosis and multidisciplinary management have been precluding similar progress. Moreover, probably a historical belief that acute mesenteric ischaemia is ‘a deadly syndrome’, has additionally inhibited developments in this field. Recent preliminary evidence suggests that a multidisciplinary approach implemented in a specialized centre can achieve high survival rates and lower morbidity.

A uniform algorithm for diagnosis and management of mesenteric ischaemia is currently not available.

The aim of our survey is to assess the different approaches to the management of patients with mesenteric ischaemia and intestinal infarction in different countries and institutions and by different medical specialties. There may be differences in the availability of appropriate investigations and treatments as well as differences in teaching and awareness in different settings. We wish to assess the importance of these factors prior to conducting a more formal observational study.

Methods
Electronic questionnaire (see Appendix) will be sent out in two ways:

1) **Team Form:**
   This form will be sent to contacts identified by Acute Intestinal Failure Group of ESPEN with the goal to collect responses from the most of European countries and from all continents. One form per hospital is sent and filled as a team effort by different specialists (information on the team is collected). We aim to collect approximately 100 ‘team’ forms.

2) **Individual Form:**
   This form will be sent out by different specialist societies to their all members. Information on medical speciality of the responder is collected. We aim to collect approximately 1000 individual forms.
Study protocol

We will contact and ask collaboration from the following societies beyond ESPEN and its regional societies (not a complete list):

EUROPE
ESVS European Society for Vascular Surgery
ESICM European Society of Intensive Care Medicine
ESAIC European Society of Anaesthesiology and Intensive Care
CIRSE Cardiovascular and Interventional Radiological Society of Europe
ESCP European Society of Coloproctology
EUSEM European Society for Emergency Medicine
BIFA British Intestinal Failure Alliance

WORLD
WSES World Society of Emergency Medicine
WFVS World Federation for Vascular Societies
WFICC World Federation of Societies of Intensive and Critical Care Medicine
WSACS The Abdominal Compartment Society
ANZICS Australian and New Zealand Intensive Care

Danish, Swedisch, Norwegian, Italian, Britisch, Spanish, Swiss and Estonian national societies of vascular surgery, (emergency) surgery, (interventional) radiology, gastroenterology, intensive care and anaesthesiology

Definitions

**Intestinal ischaemia**
Intestinal ischaemia refers to intestinal injury related to impaired or disrupted perfusion that can potentially be reversed. This mesenteric vascular insufficiency may be occlusive or non-occlusive in origin.

**Intestinal infarction**
Intestinal infarction refers to irreversible transmural necrosis of the intestine due to ischaemia.

**Occlusive intestinal ischaemia**
Decreased mesenteric blood flow due to high-grade stenosis or occlusion of mesenteric vessels (arterial or venous).

**Non-occlusive intestinal ischaemia**
Decreased mesenteric blood flow without high-grade stenosis or occlusion of specifically identifiable (larger) mesenteric vessels. The mechanisms include severe vasoconstriction (especially if accompanied by hypovolaemia), very low cardiac output and compression of mesenteric vessels due to increased intra-abdominal pressure.

Ethics
No patients are involved. No personal data of responders will be processed. Opinions based on experience of respondents will be collected, no real patient cases. Therefore, we do not expect any ethical issues with this survey.
Analyses
Reponses with team forms and individual forms will be analysed separately and the results compared thereafter. Responses from different continents and countries, different types of hospitals and specialities will be compared.

Timeline
Application for ESPEN endorsement: December 2020
Distribution of Team form: January 2021
Approval by other distributing societies: January 2021
Data collection (individual survey sent out on 01.02.2021): 01.02.2021-31.04.2021
Data cleaning: May 2021
Data analysis: June 2021
Manuscript preparation: August-October 2021
Manuscript submission: End 2021

Literature