INTRODUCTION

Antonio Beniviene first described mesenteric ischemia in the 15th century. It became more intensely studied in the mid 19th century after case reports by Virchow and others. The first successful surgery to repair a case of acute mesenteric ischemia (AMI) was performed by Elliot who, in 1895, resected a gangrenous portion of bowel and reanastomosed the viable bowel. AMI is a morbid condition that has progressively become more prevalent in recent decades with a current estimated incidence of 1 in 1000 hospital admissions. ***(Kougias et al., 2007)***

Acute mesenteric ischemia (AMI) is a potentially lifethreatening condition that has been recognized as a cause of catastrophic abdominal events. Known etiologies of this condition include mesenteric occlusion due to underlying atherosclerosis, mesenteric embolism, nonocclusive ischemia secondary to generalized visceral vasospasm, and mesenteric vein thrombosis***. (Kougias et al., 2007)***

The classic presentation for patients with embolic disease of the mesenteric vessels is sudden-onset midabdominal pain that is described as being out of proportion to the physical findings and is associated with immediate bowel evacuation ***(Souba et al., 2007)***

Patients with thrombotic mesenteric occlusion also present with sudden-onset severe midabdominal pain that is out of proportion to the physical findings, they typically have a history of chronic postprandial abdominal pain and significant weight loss. ***(Souba et al., 2007)***

Patients with non occlusive mesenteric ischemia (NOMI) present somewhat differently. It is generally more diffuse and tends to wax and wane. ***(Souba et al., 2007)***

The diagnosis of AMI requires a variety of clinical factors, as there is not a single reliable serological or radiographic test to confirm the diagnosis of AMI. Several commonly utilized serological studies as leukocytosis, elevated amylase level, or the development of high anion gap metabolic acidosis, are suggestive rather than pathognomonic of AMI. More recently, D-dimer has been found to increase within as little as 30 minutes from the onset of intestinal ischemia after ligation of the superior mesenteric artery in experimental animal models. ***(Kougias et al., 2007)***

Findings on plain x-ray films of the abdomen associated with acute mesenteric ischemia, such as pneumatosis, portal venous gas, or thumbprinting, usually are nonspecific or late in the course of the disease and correlate to high mortality rate. ***(Schoots et al.,2005)***

CT scanning is a diagnostic modality commonly utilized in patients who present with abdominal pain and has been reported to be sensitive in the diagnosis of mesenteric occlusion. ***(Kougias et al., 2007)***

The gold standard test to diagnose AMI has been the conventional aortogram. Anteroposterior and lateral arteriographic views of the abdominal aorta and visceral branch vessels can diagnose AMI and localize the occlusive lesion. ***(Reese et al.,2008)***

Once the diagnosis of AMI is suspected, the surgeon is faced with multiple therapeutic challenges, which include assessment of intestinal viability, revascularization to prevent further small bowel loss, and resection of necrotic bowel if necessary. ***(Souba et al., 2007)***

Revascularization is usually accomplished with open revascularization techniques. Various methods of operative revascularization have been performed, including mesenteric artery bypass, transaortic endarterectomy, local arterial endarterectomy with patch angioplasty, thrombectomy, and superior mesenteric artery (SMA) transposition. Of these procedures, bypass grafts to mesenteric arteries are the most common **.** ***(Sreedharan et al.,2007)***

Selective catheterization of the SMA with direct intra-arterial infusion of thrombolytic therapy may be employed as adjunctive therapy in NOMI.

Endovascular management as the sole treatment modality in cases of AMI remains controversial, since assessment of intestinal viability is crucial, and can only be achieved with abdominal exploration and direct bowel inspection. That point aside, it is important to recognize that endovascular treatment may play an alternative therapeutic role in patients with a prohibitive operative risk who do not have frank peritoneal signs on physical exam. ***(Kougias et al ., 2007)***

Second-look laparotomy is an essential part of the management of acute mesenteric ischemia. No matter which adjunctive method is used intraoperatively to assess bowel perfusion and viability,***(Souba et al., 2007)***