Accidentes vasculares intestinales, manejo a corto y largo plazo

Dr. Crowe is a Professor in the Division of Gastroenterology in the Department of Medicine at the University of California in San Diego. She received her medical degree from McMaster University in Hamilton, Ontario, Canada, and completed postgraduate training in internal medicine and gastroenterology at McMaster University. After additional research training in the Intestinal Diseases Research Unit at McMaster University and the Hospital for Sick Children in Toronto, she joined the faculty at McMaster University before moving to the University of Texas Medical Branch in Galveston in 1992. She was faculty at the University of Virginia from 2001-2011 where she served as the Director of the Celiac Disease Center, Director of Endoscopy at the Outpatient Surgical Center, and Director of Faculty Development for the Division.

As a clinician-scientist, Dr. Crowe has been active in research, clinical care, teaching, and mentoring. She is named in Best Doctors in America (1996-present), and recognized as one 2011's America's Top Gastroenterologists and by Becker's ASC 2011 as one of America's Top 75 Gastroenterologists. She has served as a medical advisor for disease support groups including the Crohn's and Collitis Foundation of America and various celiac disease support groups. Her clinical interests span from acid-peptic diseases, infectious GI diseases, celiac disease and GI food allergies to IBD and colorectal cancer screening. Dr. Crowe was the GI Fellowship Training Director 1994-1998 at UTMB and served as the Director of the UVA GI T32 training grant 2008-2011. Since coming to UCSD in 2011 she is Director of the UCSD T32 Gastroenterology Training grant and Director of Research in the Division of Gastroenterology.

Sheila E. Crowe, M.D.
FRCP, FACP, FACG,
AGAF
Professor of Medicine, Director of Research Division of Gastroenterology Department of Medicine University of California, San Diego

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Retos clínicos en la gastroenterología de urgencias

Agosto 31-Septiembre 1 de 2012
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Dr. Crowe has been active in the American Gastroenterological Association (AGA), previously serving as a member of the AGA Research Committee, the AGA Education & Training Committee, the AGA Women's Committee and an elected member of the 2004-2005 AGA Nominating Committee. She served 9 years on the AGA Council including the AGA Council Chair Elect in 2005 and AGA Council Chair from 2006 to 2009 during which time she was a member of the AGA Leadership Cabinet, a member of the DDW Council and a liaison to the AGA Education & Training Committee. Currently she serves a 3-year term as the Councillor-at-Large on the Governing Board of the AGA and in this role she chairs the AGA Publication Committee, is the Editor of AGA Perspectives and serves as a liaison to the AGA Council. She has recently been appointed to the American Board of Internal Medicine Gastroenterology Board. Dr. Crowe is a Fellow of the Royal College of Physicians of Canada, the American College of Physicians, the American College of Gastroenterology, and the AGA.

Dr. Crowe served a 4-year term as a member of the Clinical and Integrative Gastrointestinal Pathobiology (CIGP) National Institutes of Health Study Section and terms on the editorial boards of the American Journal of Physiology: Gastrointestinal and Liver, and Alimentary Pharmacology and Therapeutics and the Nature series journal Mucosal Immunology. She is Chair of the NIH Digestive Diseases and Nutrition Fellowship Special Emphasis Panel. Her bench research centers on understanding immune-epithelial interactions involved in inflammatory, infectious, and allergic gastrointestinal diseases. She has received various research grants and career awards including ongoing funding from the National Institute of Diabetes and Digestive and Kidney Diseases to examine the role of oxidative stress in the gastric mucosa as a mediator of gastric epithelial injury during Helicobacter pylori infection. She was awarded the AGA 2009 Punderburg Award for her research relevant to gastric cancer and named as a 2008 Outstanding AGA Woman in Science. Dr. Crowe is the author of various articles and book chapters, and she is invited often to lecture nationally and internationally in the areas of her expertise including celiac disease, GI food allergies and intolerances, and H. pylori infection. She served as the Director of the AGA 2010 Spring Postgraduate Course. Dr. Crowe is an author of “Celiac Disease for Dummies” published in 2010 and Consultant for the New York Times Health online section on the topic of celiac disease 2009-2010.
GI Vascular Insufficiency Syndromes: Acute and Chronic

Sheila E. Crowe, MD, FRCPC, FACP, FACG, AGAF
Department of Medicine
University of California, San Diego
Case Presentation (1)

- 43 year old male admitted for recurrent abdominal pain
- Recently discharged after a brief admission with abdominal pain with nausea and vomiting attributed to food poisoning
- Pain improved on narcotics, diet slowly advanced but pain recurred. Multiple tests including EGD, CT scan, US, blood tests were normal
- Past medical history significant for mild hypertension, overweight, elevated blood sugars
Case Presentation (2)

• History of drinking “moonshine”, with recurrent pain elevated amylase documented one evening

• Had an abdominal CT that evening which was normal, no pancreatic findings

• Then SOB concerning for PE, CT-PA negative

• The following day seen by the surgeon who planned to do an exploratory laparotomy if pain continued. However, he improved and remained stable until Sunday when pain increased, he became agitated, hypotensive
Case Presentation (3)

- Seen by the partner of the surgeon on Sunday evening with a CT abdomen/pelvis showing ischemic bowel and right colon
- Taken to the OR on Monday morning by the most junior surgeon as everyone else was at a meeting
- Found to have liquefaction of the right colon and necrotic small bowel up to the ligament of Treitz
- Completely walled off by the omentum
- Duodenal tube placed into the duodenal stump, entire small bowel and right colon resected
Case Presentation (4)

- Unstable post-operatively with thrombosis of peripheral arteries
- History of sagittal sinus thrombosis came to light
- Seen by hematology for possible clotting disorder
- Given SC heparin
- Received parenteral nutrition
- After one month in the ICU discharged home on TPN with unclear prognosis
Intestinal Perfusion

• Splanchnic vascular bed receives 35% of total blood volume, 30% of cardiac output (1800 ml/min)
• Can tolerate a 75% reduction in blood flow
• Reperfusion injury is a major mechanism of damage due to superoxide radicals
Types of Intestinal Ischemia

- 60% arterial
  - 40% embolic, 40% thrombotic, 20% mixed
  - 90% acute – SMA
  - 10% chronic – mainly IMA, some SMA
- 30% venous
- 10% mixed
Causes of Mesenteric Ischemia

- Atherosclerotic
- Embolic
- Mesenteric venous thrombosis
  - Rare cause of AMI
  - Associated with DVTs
- Local intra-abdominal causes
  - Trauma, dissection, inflammation
- Inherited or acquired hypercoaguable states

White, CJ, Prog Cardiovasc Dis, 54:36, 2011
Presentations of Mesenteric Insufficiency Syndromes

Acute Mesenteric Ischemia

- SMA thrombus
- SMA embolus
- SMV thrombus
- Non-occlusive (drugs, sepsis)
- Other (vasculitis, dissection)

Chronic Mesenteric Ischemia

Ischemic Colitis
Acute Mesenteric Ischemia (AMI)

- Pain out of proportion to physical findings
  - Vomiting, diarrhea with blood, ileus
  - Peritonitis, fever, sepsis, shock

↑ WBC, amylase, lactic acid

- Metabolic acidosis,
- Manage with IV fluids, NG tube, antibiotics
- Assess with CT, angiography
- Treat according to cause

Hammik, IG & Brandt, LG, Vasc Med, 15:407, 2010
Chronic Mesenteric Ischemia (CMI)

- Most common vascular disorder of the intestines
- Unusual due to interconnections and redundancy of the SMA-IMA system
- Classically presents with chronic post-prandial discomfort, weight loss, abdominal bruits
- More common in women
- Evaluate with CT, angiography, occasionally exploratory laparotomy
- Endovascular techniques or treat underlying cause

White, CJ, Prog Cardiovasc Dis, 54:36, 2011
Ischemic Colitis (IC)

- Classical clinical presentation:
  - bloody diarrhea, abdominal pain
- Usually self-limited
- Supportive care (IV fluids, fasting, parenteral nutrition, antibiotics, heparin prophylaxis)
- Surgery for peritonitis, gangrene, stricturing, uncontrolled bleeding

Elder, K et al, Cleve Clin J Med, 76:401, 2009
O’Neill, S & Yalamarthi, S, Colorectal Dis, 2012 epub
Ischemic Colitis
Why some areas of the colon are prone to ischemia

The colon is protected from ischemia by a collateral blood supply via the marginal artery of Drummond, a system of arcades connecting the major arteries. The anatomy is highly variable, however, and certain areas are more vulnerable in some people.

The splenic flexure (Griffith’s point) is vulnerable to ischemia because the marginal artery of Drummond is occasionally tenuous here and is absent in up to 5% of patients; a 1.2- to 2.8-cm² area may be devoid of vasa recta.

The right colon may be vulnerable in systemic low-flow states, as the marginal artery of Drummond is poorly developed here in 50% of the population.

The rectosigmoid junction (Sudok’s point) is also vulnerable because it is distal to the last collateral connection with proximal arteries.
Ischemic Colitis (IC)

• Recent systematic review
  • 2610 publications identified, included 8 retrospective case series, and 3 case controlled series (1049 patients)
• Medical management in 80.3% (6.2% died)
• Surgery required in 19.6% (39.3% died)
• Overall mortality 12.7%
• Right sided IC most significant predictor of poor outcome. Also, lack of rectal bleeding, renal dysfunction and peritoneal signs

O’Neill, S & Yalamarthi, S, Colorectal Dis, 2012 epub
Long-term Effects of Mesenteric Ischemia Syndromes

• AMI-CMI:
  • Requirement for anticoagulation with its side effects
  • Short bowel syndrome - dehydration, diarrhea, malnutrition, fatty liver, and many other problems

• Ischemic colitis:
  • Diarrhea
  • Stricture
  • Recurrent events
Take Home Messages

- Mortality rates for mesenteric ischemia syndromes have not improved in the past decade
- Early recognition and diagnosis is important
- Acute mesenteric ischemia has the highest mortality
- Chronic mesenteric ischemia in some cases can be managed medically with anticoagulation
- Ischemic colitis is not rare, usually managed supportively but may need surgery and can be fatal