Coral Reef Aorta- Treatment Options?

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Chronic mesenteric ischemia (CMI)

- CMI is a life-threatening problem that can result in death from inanition or bowel infarction
- Incidence is low
- Only about 340 open revascularizations for CMI are performed annually in nonfederal hospitals throughout the United States
- The optimal treatment remains poorly defined, and many of the issues regarding the means of revascularization, the type of open procedure, the number of vessels to be revascularized, and the optimal bypass conduit remain unanswered

History

- 65F referred for Chronic Mesenteric Ischemia
- Unintentional 40 pound weight loss in past year, now weighing 33 kg (73 lbs) with a BMI 13.5
- She had symptoms of early satiety, discomfort in upper and mid abdomen, even after eating small amounts of food
- Intake consisted mostly of soda and soups
- On further questioning she also had < 1 block claudication, and numbness in both legs
- PMH: Hypothyroidism, HLD, Anxiety, C-section
- Long-term smoker (>60 pack years)

Physical Exam

- Gen: very cachectic, disheveled
- Neurologic:
  - 5/5 sensation & strength both arms
  - Decreased light touch sensation both legs, 5/5 psoas & hamstring strength bilaterally, quads & gastroc 5/5
  - Feet warm, well perfused, good cap refill, no edema
  - Radial  Carotid  Femoral  Popliteal  DP
    - PT
      - Left  2+  2+ nonpalp nonpalp dopp dopp
      - Right  2+  2+ nonpalp nonpalp dopp dopp
**Studies**

- Labs: Hct-25, WBC-7, Platelets-233, Na -123, K- 4.0, Cr -1.2, albumin -3.5, prealbumin- 7

- ABIs : R 0.78 / L 0.65

- TTE: normal LV function, EF 65-70%, severe left ventricular hypertrophy, moderate to severe left atrial enlargement, PA systolic pressure 54mmHg, myocardial perfusion scan: no scarring or ischemia, normal LV function, EF 55%

- Carotid duplex: <50% stenosis bilaterally

**Imaging**

**How would you manage this patient?**

A. Endovascular mesenteric stenting  
B. Aorto-Mesenteric Bypass with AFBG  
C. Aortic Endarterectomy alone  
D. Aortic Endarterectomy with AFBG
How would you approach this patient operatively?

A. Retroperitoneal aortic approach

B. Transperitoneal approach with medial visceral rotation

Treatment

- OPEN SURGICAL REVASCULARIZATION
  - Left medial visceral rotation
  - Exposure of abdominal aorta and visceral branches
  - Intraoperative US
Surgical Intervention

- Transaortic endarterectomy of visceral aorta including origins of celiac trunk and SMA with primary aortic closure (felt strip reinforcement)

- Infrarenal aortic control was then obtained and aortobifemoral bypass was performed
Postoperative Course

- Appropriate weaning of sedation and ventilator support
- Return of bowel function within first few days post op
- Discharged home on a regular diet

Indications for Surgery for Chronic mesenteric ischemia

- Presence of symptoms (ab pain + weight loss) in the setting of documented severe splanchnic artery stenosis
- Options include open surgery and percutaneous transluminal angioplasty (PTA) +/- stent (bare or covered)

“Coral reef” atherosclerosis of the suprarenal aorta: A unique clinical entity


- Term “Coral Reef Aorta” coined in this report from UCSF in 1984 for an “eccentric, heavily calcified polypoid lesion arising from the posterior surface of the suprarenal aorta”
- N=9 patients (all women, mean age 51 years) between 1970 and 1983
- Indications: severe lower extremity ischemia -9 patients
- IIFN-9 patients
- Visceral ischemia=2 patients
- CHF= 3 patients
- 1 emergency procedure for acute aortic thrombosis
- Concomitant aortoiliofemoral revascularization-7 patients
Coral reef aorta

- Recent tabular review of published series found:
  - Nearly equal gender prevalence
  - Primary symptom:
    - Intermittent claudication 50%
    - Renovascular hypertension 41.7%
    - Chronic mesenteric ischemia 9.1%
  - Pathogenesis remains unclear

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