Massive atheroembolism after CO2 EVAR

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

☒ Consulting BMC
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☒ Other(s): Proctor and Speaker for Bolton, Cook Medical, Endologix, Medtronic.

☐ I do not have any potential conflict of interest
• 82 years old male
• Presented with embolia to the fifth toe
• CRF : Cr 2.4 mg%
Symptomatic 50.5 mm AAA & 18 mm LCIA
Tamaño imagen: 518 x 518
Tamaño vista: 608 x 608
WL: 127
WW: 253
After EVAR
After EVAR
Anything new for massive atheroembolism after EVAR?

Alejandro Fabiani <alefabiani@gmail.com>
para Michel, Thomas

I have just finished evar

2 archivos adjuntos

Makaroun, Michel <makarounms@upmc.edu>
para mi, Thomas

Nothing you can do now
Sit tight and wait
What graft did you use?

Michel S Makaroun MD
Co-Director, UPMC Heart and Vascular Institute
Professor and Chair, Division of Vascular Surgery
Atheroembolia?

CO2?
Livedo reticularis, rhabdomyolysis, massive intestinal infarction, and death after carbon dioxide arteriography

John H. Rundback, MD, Pravin M. Shah, MD, John Wong, MD, Sateesh C. Babu, MD, Grigory Rozenblit, MD, and Maurice R. Poplasky, MD, Valhalla, N.Y.

In patients with renal insufficiency or hypersensitivity to iodinated contrast material, carbon dioxide gas (CO₂) is generally considered a safe alternative contrast media for digital subtraction angiography. However, we herein report a previously undesccribed fatal complication of CO₂ angiography in a patient with acute renal dysfunction and congestive heart failure. The possible pathogenetic mechanisms of this complication are discussed. (J Vasc Surg 1997;26:337-40.)

Fig. 1. Livedo reticularis on lower abdomen, thighs, and buttocks.

Fig. 2. Small intestine shows raised necrotic grey area over the antimesenteric border.

Signs of compartment syndrome were evident. Laboratory analysis demonstrated markedly elevated serum creatinine phosphokinase (CPK) levels, and myoglobinuria was detected. The patient was suspected of having angiography-related peripheral atheroemboli and rhabdomyolysis, and he was given intravenous mannitol, hydration, and analgesics.

Over the next several days, the multiple areas of skin mottling coalesced and worsened, eventually resulting in skin necrosis and sloughing. Punch biopsy of the affected areas showed no evidence of atheroemboli, cholesterol clefts, or arterial thrombosis. Ten days after angiography, signs and symptoms of peritonitis developed, and an abrupt elevation in the patient’s white blood cell count to 23,000/ml was noted. Surgical exploration revealed patchy areas of pale and ischemic small bowel, with multiple circular, raised, grayish lesions over the antimesenteric border. A focal jejunal perforation was identified, and segmental jejunal resection was performed (Fig. 2). On palpation, the superior mesenteric artery was patent, and normal arterial pulsations were identified in the mesenteric intestinal arcade. Forty-eight hours later, abdominal reexploration showed the remaining small bowel to be ischemic, and complete resection of the small intestine was performed. Histopathologic examination of multiple sections of the small bowel and mesentery showed full-thickness necrosis of the antimesenteric wall, without evidence of thrombosis or atheroemboli.

The patient continued to deteriorate after the operation and died of multorgan failure 31 days after angiography.
Labs:

Hb    12.5
Cr    2.7
pH    7.36
CO2   42
EB    -3
Treatment:

Alprostadil-Prostaglandin E1 (80 μg IV/day)
Steroids
Hemodynamic support
4 hours after EVAR
4 hours after EVAR
12 hours after EVAR
24 hours after EVAR
Days 2-3 after EVAR

Patient was improving
Referred no pain/discomfort
Labs were within normal parameters
But…
Day 4 after EVAR

Abdominal pain & distension
Oliguria
Patient died on day 6 after EVAR
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