

An unusual cause of acute abdominal pain after cardiac surgery: acute epiploic appendagitis

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Abstract

Abdominal complications following cardiac surgery remain unusual, but are associated with high mortality. The most common abdominal surgical complications are mesenteric ischaemia, diverticulitis, pancreatitis, gastrointestinal bleeding and cholecystitis. We describe a case of a 73-year old woman with acute abdominal pain mimicking cholecystitis on day 10 after aortic valve replacement. An abdominal examination showed tenderness of the right upper quadrant with Murphy's sign. Complete blood count, blood chemistries and urinalysis were normal as were the abdominal and chest X-rays and abdominal ultrasonography. The abdominal computed-tomography (CT) scan enabled us to rule out cholecystitis, as it demonstrated the typical appearance of epiploic appendagitis on the right colon, 1 cm below the gallbladder. Epiploic appendagitis results from twisting, kinking or venous thrombosis of an epiploic appendage. Depending on its localization, it mimics many diagnoses requiring surgery: colitis, diverticulitis, appendicitis and cholecystitis. An abdominal CT scan is the diagnostic imaging tool of choice. All physicians involved in post-cardiac surgery care should be aware of this self-limiting disease that usually resolves with non-steroidal anti-inflammatory drugs and watchful waiting, and to avoid unnecessary surgery because the spontaneous evolution of epiploic appendagitis is usually benign.

Keywords: Appendagitis • Cardiac surgery • Abdominal complication

INTRODUCTION

Abdominal complications following cardiac surgery remain unusual (0.2–2.1%), but are associated with high morbidity and mortality (13.9–63%) [1, 2]. The most common abdominal surgical complications, in decreasing order, are mesenteric ischaemia, diverticulitis, pancreatitis, gastrointestinal bleeding and cholecystitis [1]. We describe a rare cause of focal abdominal pain that mimicked biliary colic: acute epiploic appendagitis.

CASE REPORT

On postoperative day 10, after an uneventful aortic valve replacement for aortic stenosis, a 73-year old woman developed acute onset, sharp right upper quadrant abdominal pain without radiation. She had a history of uncomplicated gallstones. She had no fever and denied any nausea, vomiting, anorexia, changes in bowel habits or rectal bleeding. She was afebrile, non-icteric, with normal vital signs. Her lungs were clear to auscultation and percussion. She had no costovertebral angle tenderness or signs of right heart failure. An abdominal examination revealed tenderness of the right upper quadrant with Murphy's sign. Vaginal and rectal examinations were normal. The complete blood count, blood chemistries and urinalysis were normal, except for high C-reactive protein (CRP; 22 mg/l, normal <3 mg/l).

Abdominal and chest X-rays were normal, without right pleural effusion. Transthoracic echocardiography did not show any pericardial effusion or arguments for right heart failure. Abdominal ultrasonography visualized uncomplicated gallstones but no findings supporting cholecystitis or dilation of intra- and extra-biliary ducts. The liver, pancreas, kidneys and psoas were considered normal. An abdominal computed-tomography (CT) scan detected the typical appearance of epiploic appendagitis, located on the right colon, 1 cm below the gallbladder (Fig. 1). The outcome was favourable with a non-steroidal anti-inflammatory drug without antibiotics. An abdominal examination normalized a few days later. At follow-up, the patient was symptom-free.

DISCUSSION

Appendagitis was first described in 1956 [3]. Epiploic appendages are peritoneal pouches that arise from the serosal surface of the colon from the cecum to the recto-sigmoid, to which they are attached by a vascular stalk. Everyone has an average of ~100 epiploic appendages that are composed of adipose tissue and blood vessels, and are 0.5–5 cm long. Epiploic appendagitis results from twisting, kinking or venous thrombosis of an epiploic appendage [4].



Figure 1: An axial contrast-enhanced abdominal CT scan demonstrating acute epiploic appendagitis near the right colon with a hyperattenuated centre, surrounded by inflammation (white circle).

Acute epiploic appendagitis most frequently mimics appendicitis or diverticulitis. It can occur at any age and especially in overweight patients. The clinical picture is dominated by sharp and localized pain in the left lower quadrant, associated with abdominal tenderness. The patient is usually afebrile and has had no change in bowel habits [5]. Laboratory values are within normal limits, except for elevated CRP. Depending on its location, in order of decreasing frequency, areas adjacent to the sigmoid colon, the descending colon and the right hemicolon, epiploic appendagitis can mimic other diagnoses requiring surgery: colitis, diverticulitis, appendicitis or cholecystitis. An omental infarct may clinically resemble epiploic appendagitis [6], but CT scan findings differ: the latter is more voluminous than an omental infarct without visceral peritoneal thickening [7].

Before CT scans became widespread, most cases of acute epiploic appendagitis were diagnosed during surgery. Since the introduction of cross-sectional imaging, acute epiploic appendagitis is most often diagnosed on CT images: an oval lesion up to 5 cm long, with attenuation equivalent to that of fat, that abuts the anterior colonic wall and is surrounded by inflammatory changes. Normal epiploic appendages are not visible on CT scans.

Ultrasonography sometimes visualizes the lesion as an oval non-compressible hyperechoic mass with a hypoechoic rim, without central blood flow depicted on colour Doppler imaging [4].

In our patient, the relationship between epiploic appendagitis and cardiac surgery was a random coincidence. Epiploic appendagitis occurs very infrequently and the diagnosis is difficult to make because many physicians are unaware of it. All physicians involved in post-cardiac surgery care should know this self-limiting entity to avoid unnecessary surgery during the post-operative context of anticoagulation, complications of abdominal surgery (bleeding, infection) [4], antibiotic prophylaxis and the wound-healing process.

Treatment is usually conservative with favourable spontaneous resolution in <10 days [8]; however, some authors advocate surgery to prevent recurrence [8]. The place of antibiotics is not well established.

Conflict of interest: none declared.

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