The Evidence for Nonoperative Management of Visceral Artery Dissections: A Single-Center Experience

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Background: Spontaneous isolated visceral artery dissection is an uncommon condition encountered by clinicians. Presentation may vary from asymptomatic to acute intestinal ischemia, although a clear natural history has yet to be elucidated. No consensus exists on how best to manage these patients in the absence of true intestinal ischemia; however, much of the literature suggests that intervention is required. We present our institution's experience with 10 patients, both symptomatic and asymptomatic, all but 1 of whom was managed medically.

Methods: From September 2009 to August 2013, 10 patients presented to our institution with celiac or mesenteric artery dissection. We retrospectively reviewed these patients' clinical presentation, treatment, and follow-up.

Results: The mean age of the patients was 61.5 ± 10.3 (standard deviation [SD]) years (range, 41−77 years), and the mean follow-up period was 14.7 ± 11.6 (SD) months (range, 1−31 months). Four (40%) patients had abdominal pain and no ischemic changes of the bowel. There were 1 type I, 6 type II, 2 type III, and 1 type IV dissections according to Sakamoto classification. Treatments included observation without anticoagulation treatment in 8 patients (80%), anticoagulation treatment in 1 patient (10%), and endovascular stenting in 1 patient (10%) with unremitting abdominal pain. Anticoagulation was used in the 1 symptomatic patient with radiographic evidence of associated thrombus. The disease stabilized in all patients during follow-up.

Conclusions: Most authors tend to advocate an endovascular or even operative repair for these processes. In our experience, most of these patients have a self-limited course of symptoms or their dissections are found incidentally. We believe that the results of conservative management in our cohort of patients support the conservative approach over the once recommended operative repair.

INTRODUCTION

Spontaneous isolated visceral artery dissection (SIVAD) encompasses dissections of the celiac artery (CA), superior mesenteric artery (SMA), inferior mesenteric artery, and their respective branches. Although visceral artery dissection is not infrequently encountered in the setting of aortic dissection, SIVAD is a rare pathology. The modern prevalence of this disease process is unknown. The literature has been largely limited to a small number of case reports and case series.[1−9] However, more frequent use of diagnostic imaging studies has resulted in increased recognition of SIVAD.

There has been a paradigm shift regarding how best to manage patients with SIVAD, especially those having ongoing symptoms without signs of end-organ ischemia or hemorrhage. As recently as 2000, the open surgical approach was deemed mandatory by some authors for SIVAD.[10,11]

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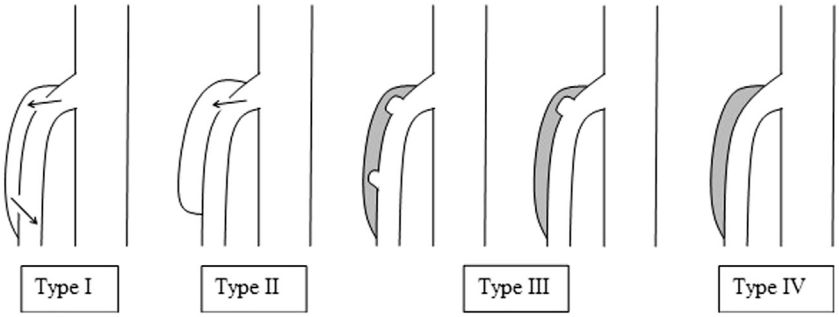

Fig. 1. Sakamoto classification of spontaneous isolated dissections of the visceral artery. Type I: patent false lumen with both entry and reentry; type II: ''cul-de-sac'' blind-ending false lumen without reentry; type III: thrombosed false lumen with ulcer-like projection; and type IV: thrombosed false lumen without ulcer-like projection. Arrows represent direction of blood flow.

However, advances in endovascular techniques have led to debate regarding the use of stenting in the setting of SIVAD. Most recently, a number of reports have emphasized conservative therapy for patients without evidence of ischemia.[12] Even in this regard, it is unclear as to whether patients should be placed on anticoagulation and antiplatelet therapy.[13,14]

We present our institution's experience with 10 patients with spontaneous isolated CA and SMA dissection, focusing on an optimal management approach.

METHODS

We performed an institutional review board—approved retrospective chart review of patients seen at our institution between September 2009 and August 2013. We included all patients with the diagnosis of CA or SMA dissection and excluded patients with concomitant aortic pathology. Diagnosis was made using either computed tomography (CT) or magnetic resonance imaging. We classified each dissection according to Sakamoto classification—type I: patent false lumen with entry and exit, type II: blind-ending false lumen, type III: thrombosed false lumen with ulcer-like projections, and type IV: completely thrombosed false lumen without ulcer-like projections (Fig. 1).[15] We noted their presenting symptoms, arterial diameter, preexisting risk factors, follow-up imaging, and outcomes.

RESULTS

We identified 10 patients with isolated CA or SMA dissection. Patient demographics, artery characteristics, Sakamoto classification, and outcomes are listed in Table I. Most patients were men (90%), with a mean age of 61.5 ± 10.3 years. Mean follow-up was 14.7 ± 11.6 months. Four patients complained of abdominal pain on initial presentation, although none were found to have signs and symptoms of bowel compromise. Two of these symptomatic patients initially presented to their primary care physicians and were referred to us for definitive management. Their symptoms had resolved at the time of our evaluation. The 2 other symptomatic patients presented to the emergency room with acute abdominal pain and hypertensive urgency.

All patients not on antiplatelet therapy were initiated on an aspirin regimen. The 6 asymptomatic patients and 2 previously symptomatic patients underwent repeat imaging within 1 week of our evaluation to ensure stability of the dissection. None of these patients showed dissection progression nor did they develop further symptoms. Subsequent imaging at 6 months, then yearly, confirmed disease stability.

Two patients presented with abdominal pain and hypertensive urgency. They were admitted for blood pressure control and started on intravenous anticoagulation. One patient had unremitting abdominal pain, but no signs of ischemia, and underwent endovascular intervention with a bare metal stent. The other patient's pain resolved and was continued on oral anticoagulation for 6 months because of the presence of thrombus on initial scan. Repeat imaging at 6 months showed complete resolution of his dissection (Fig. 2).

DISCUSSION

SIVAD is a rare condition that appears to have increased in incidence because of the more frequent