

Clinical Outcomes of Conservative Treatment in Patients with Symptomatic Isolated Spontaneous Renal Artery Dissection and Comparison with Superior Mesenteric Artery Dissection

Min-Jae Jeong ^a, Hyunwook Kwon ^a, Amy Kim ^a, Gi-Young Ko ^b, Youngjin Han ^a, Tae-Won Kwon ^a, Yong-Pil Cho ^{a,*}

^a Department of Surgery, University of Ulsan College of Medicine and Asan Medical Centre, Seoul, Republic of Korea

^b Department of Radiology, University of Ulsan College of Medicine and Asan Medical Centre, Seoul, Republic of Korea

WHAT THIS PAPER ADDS

The rate of dissection related mortality was substantial in patients with symptomatic isolated spontaneous renal artery dissection, and the cause of death in all cases was an abrupt rupture of the dissecting aneurysm. Symptomatic isolated spontaneous renal artery dissection is a potentially life threatening condition, and aggressive surgical or endovascular interventions should be considered in selected patients who are refractory to conservative medical treatment.

Objectives: The aims of this study were to report the clinical outcomes of conservative medical treatment in patients with symptomatic isolated spontaneous renal artery dissection (SRAD) and compare them with those of spontaneous superior mesenteric artery dissection (SSMAD).

Methods: This was a single centre, observational comparative study between SRAD and SSMAD. Data from a prospective visceral artery dissection registry were analysed retrospectively. Between June 2010 and December 2016, 23 consecutive patients with symptomatic isolated SRAD who initially received conservative medical treatment were included. The primary outcomes were the aggravation of dissection requiring intervention and dissection related mortality. To evaluate the prognosis of symptomatic isolated SRAD, the clinical outcomes of isolated SRAD were compared with those of symptomatic isolated SSMAD ($n = 40$) during the same study period.

Results: The primary outcome incidence was 39% (9/23) in patients with symptomatic isolated SRAD during the median follow up period of 20 months (range 0–63 months). The dissection related mortality rate was 17% (4/23), and the cause of death in all cases was an abrupt rupture of the dissecting aneurysm with significant true lumen stenosis. None of the patients without aneurysm or with true lumen occlusion had dissection related mortality. During the same study period, compared with the patients with symptomatic isolated SSMAD who initially received conservative medical treatment, the primary outcome incidence (39% vs. 10%, $p = .009$) and dissection related mortality rate (17% vs. 0%, $p = .016$) were statistically significantly higher in patients with symptomatic isolated SRAD.

Conclusions: Although the present analysis involved only a small number of patients, it revealed that symptomatic isolated SRAD with dissection related aneurysm and true lumen stenosis is a potentially life threatening condition and that aggressive surgical or endovascular interventions should be considered in these patients, who are refractory to conservative medical treatment.

© 2018 European Society for Vascular Surgery. Published by Elsevier B.V. All rights reserved.

Article history: Received 3 January 2018, Accepted 2 May 2018, Available online XXX

Keywords: Conservative treatment, Dissection, Prognosis, Renal artery

INTRODUCTION

Symptomatic spontaneous visceral artery dissections remain rare despite the increased frequency of reports on asymptomatic dissections with technical advances in multidetector

contrast enhanced computed tomography angiography (CTA).^{1–5} Among the various types of visceral artery dissections, an isolated spontaneous superior mesenteric artery dissection (SSMAD) in the Asian population has recently been increasingly reported in the literature, and the merits of conservative medical treatment and the resulting favourable prognosis have been established in several studies.^{6–17} However, a symptomatic isolated spontaneous renal artery dissection (SRAD) is extremely rare, and there is currently no consensus on its optimal management and clinical outcomes despite various therapeutic options.^{1–5}

* Corresponding author. Division of Vascular Surgery, Department of Surgery, University of Ulsan College of Medicine and Asan Medical Centre, 88, Olympic-ro 43-gil, Songpa-gu, Seoul 05505, Republic of Korea.

E-mail address: ypcho@amc.seoul.kr (Yong-Pil Cho).

1078-5884/© 2018 European Society for Vascular Surgery. Published by Elsevier B.V. All rights reserved.

<https://doi.org/10.1016/j.ejvs.2018.05.002>

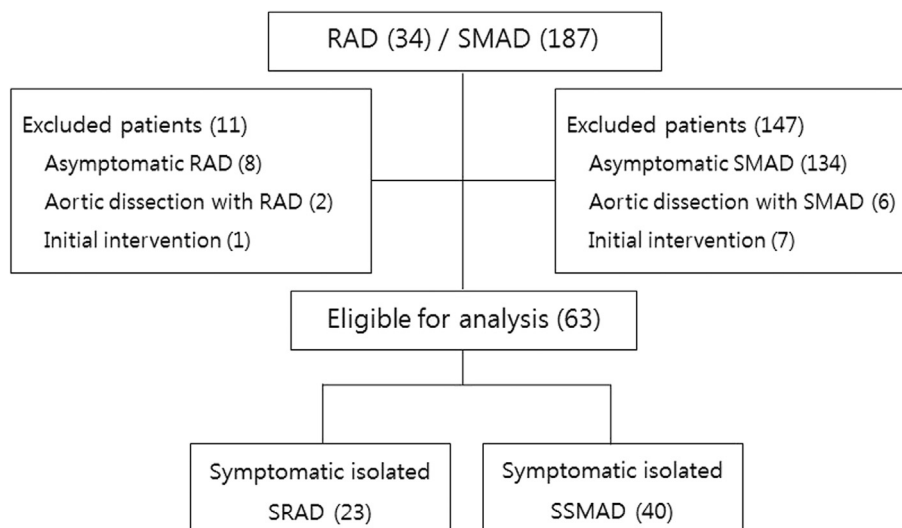


Figure 1. Flow chart of patient inclusion. Values in parentheses indicate the numbers of patients. SRAD = spontaneous renal artery dissection; SSMAD = spontaneous superior mesenteric artery dissection.

This study aimed to investigate the morphological characteristics and clinical outcomes in patients with symptomatic, radiologically diagnosed, isolated SRAD who initially received conservative medical treatment in comparison with the outcomes of SSMAD and to evaluate whether conservative treatment is safe and effective for these patients.

METHODS

Study design and population

This single centre, retrospective, observational study was based on data from a prospectively recruiting visceral artery dissection registry. The study protocol was approved by the Institutional Review Board of Asan Medical Centre (2015-1337), which waived the need for informed consent. Between June 2010 and December 2016, 34 consecutive patients diagnosed with renal artery dissection on the basis of CTA in the registry were screened for inclusion in this study. Patients with asymptomatic dissections ($n = 8$) and dissections associated with aortic dissection ($n = 2$) were excluded. To evaluate the natural course of symptomatic isolated SRAD, one symptomatic patient who initially received conservative medical treatment and underwent intervention without aggravated symptoms or signs was also excluded. Among the patients included in the study, 23 with symptomatic radiologically diagnosed isolated SRAD who initially received conservative medical treatment were included in the analysis. The demographics; risk factors of interest, including diabetes mellitus, hypertension, smoking, dyslipidaemia, and history of coronary artery disease, atrial fibrillation, connective tissue disorders, and malignancy; and other data, including clinical and anatomical characteristics; and clinical outcomes of all consecutive patients, were recorded prospectively in an Excel spreadsheet (Microsoft Corp., Redmond, WA, USA) and analysed retrospectively. Risk factor variables were defined as previously described.¹⁸

Diagnostic work up and management strategy

The initial diagnosis of dissection was made using CTA if the dissection was clinically suspected in any of the cases. Fifteen of the 23 patients presented with acute flank and eight with abdominal pain. According to the initial CTA findings, the morphological characteristics of the dissection, including the external diameter measured on the maximally dilated portion of the dissected segment and the presence of false lumen thrombosis and true lumen stenosis/occlusion, were recorded. Aneurysm was defined as a dilatation or widening of the artery at least 1.5 times larger than the normal arterial diameter. True lumen stenosis was defined as a significant ($\geq 50\%$) narrowing of the arterial diameter compared with the normal diameter. For study purposes, all the images were re-reviewed by an experienced radiologist who was blinded to the patients' general health status and the original CTA reports.

The management strategies were determined according to the patients' symptoms and signs, as well as the initial CTA findings. Conservative medical treatment, which consisted of pain management, strict hypertension control (target systolic and diastolic blood pressures < 140 and < 90 mmHg, respectively),⁶ bowel rest, intravenous fluid therapy, nutritional support, and close observation, was initially administered to all patients. Systemic anticoagulation with intravenous heparin followed by oral warfarin therapy was provided for selected patients (78%, 18/23), and anticoagulation was typically continued for 6 months to achieve a target international normalised ratio of 2.0–3.0. In patients who experienced persistent or aggravated flank or abdominal pain while receiving conservative medical treatment or in patients with signs and symptoms suggestive of aggravated dissection, endovascular or surgical intervention was performed on the basis of the arteriogram or follow up CTA findings.

Outcomes of interest and follow up

The primary outcomes included the occurrence of symptomatic or radiologically confirmed aggravation of

Download English Version:

<https://daneshyari.com/en/article/8659282>

Download Persian Version:

<https://daneshyari.com/article/8659282>

[Daneshyari.com](https://daneshyari.com)