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**PRIMARY PERCUTANEOUS REVASCULARIZATION USING CORONARY
STENT IN A PATIENT WITH ACUTE MESENTERIC ISCHEMIA**

Acute mesenteric ischemia (AMI) is an uncommon disorder with serious morbidity and mortality caused by acute obstruction of the intestinal vessels. The obstruction is generally due to cardiac thromboembolism or less frequently by the acute thrombosis on an existing atherosclerotic plaque. The most commonly involved vessel is the superior mesenteric artery (SMA).Surgical revascularization and resection is still the treatment of choice. Although percutaneous transluminal revascularization has been found to be as effective as surgical revascularization in chronic mesenteric ischemia, there is not enough evidence in literature for its use in acute cases

A 70-year-old female patient presented to our emergency department with an ongoing abdominal pain of 12-hour duration, nausea, vomiting and palpitation. She has a previous medical history of cerebrovascular accident (CVA), hypertension, chronic obstructive pulmonary disease, type 2 diabetes mellitus and atrial fibrillation (AF). She was under treatment with aspirin and warfarin for CVA and AF. On physical examination, the blood pressure was 80/50 mmHg and pulse rate 142 per minute. The heart sounds were normal and rhonchus was heard over bilateral lungs fields. The abdomen was tender and rebound pain was present. ECG was normal except for AF with high ventricular response. Laboratory results showed normal values of ALT, AST, amylase, lipase and troponin I but leukocyte count and CRP were high (leukocyte : 20200/mm³, CRP: 237 mg/L). Her INR was 2.4. On abdominal computed tomography, diffuse increased wall thickness of ileum and mesenteric edema were seen, and acute mesenteric ischemia was confirmed. Because of the patient's clinical conditions, accompanying systemic diseases and the extended ischemia of the

25 intestines, surgical mortality was considered very high. Percutaneous transluminal angioplasty
26 was contemplated as is done in acute myocardial infarction. After taking the written informed
27 consent from the patient, celiac angiography was performed via right femoral artery approach.
28 A %100 occlusion was seen in the proximal SMA (Fig. 1). Right Judkins catheter was used to
29 engage the ostium of SMA. The total occlusion was crossed with the floppy guide wire (Fig.
30 2). After predilatation with a 2.75 x 30 mm balloon, two bare metal coronary stents of 4.5x24
31 mm and 4.5x 20 mm were implanted end to end at 18 atm (Fig. 3). A good distal flow was
32 achieved (Fig. 4). In addition to antibiotic and antiarrhythmic medications, heparin infusion
33 was started. Clopidogrel loading and maintenance doses of 600 mg and 75 mg and acetyl
34 salicylic acid 300 mg were also prescribed. Abdominal pain began to subside dramatically
35 after the procedure and disappeared completely after one week. At two-month follow-up, the
36 intestinal functions have recovered and the tomography taken at 3-month follow-up showed
37 that the SMA was patent and the thickness of the intestinal wall had returned to normal.

38 Acute mesenteric ischemia is a rare disorder with serious morbidity and mortality
39 caused by acute obstruction of the intestinal vessels. The obstruction is generally due to
40 cardiac thromboembolism or less frequently by the acute thrombosis on an existing
41 atherosclerotic plaque. Although abdominal pain is severe in the early phase, tenderness is
42 typically absent on initial physical examination. With ongoing ischemia and intestinal tissue
43 damage, tenderness appears. Thus, the diagnosis is often made late. As ischemia has already
44 occurred by the time of diagnosis, the treatment of choice is surgery, and the resection of the
45 bowels is often inevitable. Successful angioplasty or stenting of mesenteric artery in the
46 absence of intestinal necrosis have been reported in literature [1,2]. Percutaneous transluminal
47 angioplasty has been found to be as effective as surgical treatment [3,4]. However, in acute
48 cases, timely diagnosis and revascularization before necrosis is often impossible. As a result,
49 stenting of acute occlusion is not widespread. In literature, only a few cases of early diagnosis

50 with successful thrombectomy and angioplasty have been reported [5-7]. In our patient, the
51 diagnosis was made early and successful angioplasty and stenting was carried out because of
52 severe comorbidity. In short, mesenteric ischemia has high morbidity and mortality despite
53 treatment. Primary angioplasty and stenting before intestinal necrosis may be life-saving
54 especially in patients with high surgical risk.

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76 **FIGURE LEGENDS**

77 Figure 1: Totally occluded superior mesenteric artery

78 Figure 2: Implanting the stent

79 Figure 3: Superior mesenteric artery angiogram after stenting

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