Management of Spontaneous Dissection of the Superior Mesenteric Artery

Key words: superior mesenteric artery, spontaneous dissection, anticoagulation, percutaneous endovascular stent placement, surgery

Spontaneous dissection of the superior mesenteric artery (SMA) is uncommon, especially when not associated with aortic dissection (1, 2). The compromise of the intestinal blood supply is a major cause of death (3). Therefore it is important to make an early diagnosis because of the high mortality rate of the disease (4). Currently, only 50 cases have been reported. Due to this rarity, clinical presentation, treatment and outcome modalities are not well defined.

Dissection of SMA is a hazardous condition, which may worsen despite early favorable conservative treatment (3). Since the results of surgery are excellent, surgical treatment has been advocated for this disease (3, 5–8). Interestingly, Leung et al recently reported a case of SMA dissection treated successfully by percutaneous endovascular placement of a Wall stent (9). Rapidly developing minimally invasive techniques, such as percutaneous endovascular stent placement, may be useful in certain cases, especially in patients with an increased risk of perioperative complications.

On the other hand, recently some cases of SMA dissection treated by conservative therapy, such as anticoagulation, have been reported (1, 10–12).

Although operative rather than conservative management is recommended by many reports, the prognosis of patients without symptoms or only transient symptoms may not be as grave as widely believed (13). Accordingly, with the improvement of imaging skills in the computed tomography (CT) and Color Doppler ultrasonography (US), SMA dissection can often be diagnosed non-invasively (2, 10, 14–16). Moreover, Furukawa and Moriyama reported that contrast-enhanced multidetector helical CT (MDHCT) is useful in diagnosing dissected SMA (17). These methods have enabled us to evaluate the blood flow of the SMA more accurately. In spontaneous dissection of SMA with residual blood flow, conservative management may be an alternative to surgery or minimally invasive intervention (11). However, Sparks et al reported that a patient treated initially with anticoagulation alone developed recurrent symptoms and had radiologic documentation of the condition one year later (18). This case demonstrates a failure of the nonoperative approach in this rare condition and suggests that disease progression may be inevitable. This case indicates that a nonoperative approach with anticoagulation for dissection of the SMA requires very close follow-up, however unfortunately, it does not prevent progression of the disease. Although the indications for surgery are still controversial, they appear to be increasing size of the aneurysmal dilatation of the SMA, thrombosis of the lumen of SMA, or symptoms persisting despite anticoagulation (18).

In summary, spontaneous dissection of the SMA is now more frequently reported because of the advancement in the diagnosis of this disease. Although surgery is indicated in acute symptomatic cases with suspicion of mesenteric ischemia, in other cases, percutaneous endovascular stent placement or conservative therapy such as anticoagulation may be appropriate, however, longer follow-ups with adequate imaging are also necessary.

Morihiro Okada, MD, Tadashi Ishiguchi, MD and Hidekazu Itoh, MD
Department of Internal Medicine, Wakayama Medical University Kihoku Hospital, 219 Myoji, Katsuragi, Ito-gun, Wakayama 649-7113

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