

Our Experience In Mallory-Weiss Syndrome: Report Of Three Cases

V Özben, F Ayan, E Aytaç, A Karata?, O Tortum, K Bal, M Paksoy, Z Saliho?lu

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Abstract

Effective hemostatic treatment is very important for patients with actively bleeding Mallory-Weiss syndrome. Various non-surgical and surgical interventions have been used to treat upper gastrointestinal bleeding secondary to Mallor-Weiss tears. In this report, we aimed to present three actively bleeding Mallory-Weiss cases. Sclerotherapy with epinephrine injection succesfully stopped the bleeding in the first two patients and emergent surgery had to be performed in the third case due to hemodynamic instability. The severity of the bleeding, the technical equipment and the experience of the medical team are important in the treatment of Mallory-Weiss syndrome.

INTRODUCTION

Mallory-Weiss syndrome (MWS) is a common cause of non-variceal upper gastrointestinal bleeding with an incidence of 5-15% (1). Although hemodynamic support is the preferred treatment modality in most cases with MWS, emergent treatment is indicated in patients with hemodynamic instability, evidence of active bleeding, recurrent bleeding, comorbid disease or bleeding disorders. Interventional treatment include surgical and non-surgical procedures. Balloon tamponade of the esophagus, transcatheter arterial embolization, systemic or selective arterial vasopresin infusion and endoscopic procedures (coagulation, ethanol/epinephrine injection, band and hemoclip placement) are among the non-surgical tecniques (2). In this report, we present 3 patients admitted to our emergency room with the complaints of upper gastrointestinal bleeding due to MWS. One patient underwent emergent surgery and we performed endoscopic sclerotherapy in the other two patients.

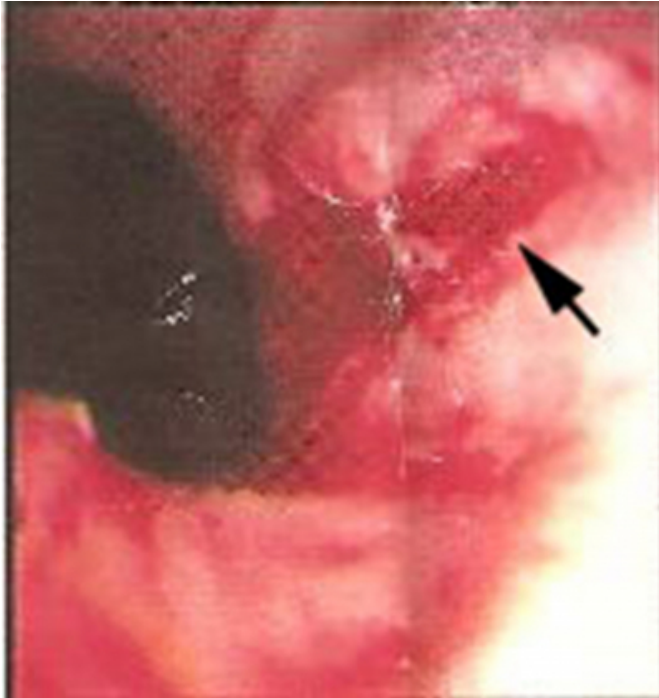
CASE 1

Routine colonoscopy had been planned for a 73 year-old male patient in a different center and bowel preparation was performed the day before the procedure. However, after the ingestion of sodium phosphate (fleet soda), he had severe vomiting followed by active hematesis. Upper intestinal endoscopy revealed the actively bleeding gastroesophageal mucosal tear and confirmed the diagnosis of MWS (Figure). He was referred to our emergency room. He was hemodynamically instabile (heart rate: 120 beats/min, blood

pressure: 80/40 mmHg, hemoglobin: 6.9 mg/dL). As the general status of the patient regressed, emergent surgery was planned. After laparatomy, gastrotomy in the cardia of the stomach was performed and the bleeding gastroesophageal mucosa was ligated with 3/0 silk sutures. The gastric incision was repaired. During the 10-month follow-up period, no complication has emerged.

Figure 1

Figure. The arrow shows the actively bleeding gastroesophageal mucosal tear (MWS) on upper intestinal endoscopy due to severe vomiting after the ingestion sodium phosphate (fleet soda).



CASE 2

A 77-year-old male was presented with vomiting followed by epigastric pain, hematemesis and syncope after he was bitten by a bee. His past medical history revealed cardiac bypass surgery 13 years ago and he was on oral anticoagulant therapy. He was resuscitated in a different center and referred to our emergency department. He was pale with a blood pressure of 90/50 mmHg, a heart rate of 100 beats/min and a hematocrit level of 27.9%. Upper GI endoscopy demonstrated bleeding in the distal esophagus and a coagulum in the stomach. The bleeding was successfully controlled with 18mL of 1/10 000 epinephrine injection endoscopically.

CASE 3

A 66-year-old male was presented with complaints of left upper quadrant abdominal pain and excreting dark stool for a week. He had had aortic and mitral valve replacement 14 years ago and he had been on oral warfarin treatment. On physical examination, he was anemic, had a blood pressure of 140/80 mmHg, a heart rate of 114/min and a hematocrit level of 17.6 % and the left upper quadrant was tender on palpation. After volume replacement and blood transfusion, the patient underwent upper GI endoscopy which revealed

minimal bleeding in a mucosal tear in the distal esophagus. Sclerotherapy with 18mL of 1/10 000 epinephrine injection efficiently stopped the bleeding.

DISCUSSION

MWS, first described by Mallory and Weiss in 1929, is a common cause of non-variceal upper GI hemorrhage which results from mucosal tears around the esophagogastric junction (3). Precipitating factors include vomiting, straining at stool or lifting, coughing, epileptic convulsions, hiccups under anesthesia, closed-chest massage, blunt abdominal injury, colonoscopic preparation with polyethylene glycol electrolyte lavage solution, and gastroscopy. The incidence of MWS in patients receiving colonoscopic preparation with polyethylene glycol electrolyte lavage solution has been reported at 0.06 percent (2 of 3172 patients) (4). In our first case, colonoscopic preparation with sodium phosphate induced forceful vomiting and resulted in a MW tear. The second patient developed severe vomiting, epigastric pain and hematemesis after he was bitten by a bee. Endoscopic examination in this patient showed a MW tear. No such case has been reported in the literature. In the third case, the cause of MWS was not clearly defined.

Most patients have a benign course and no emergency treatment other than hemodynamic support is needed. Besides this, if there is active bleeding, it persists in 50% of patients (5). Therefore, effective hemostasis is very important in patients with uncontrolled bleeding and with factors that signify high risk of active bleeding (such as visible vessel and adherent clots, comorbid diseases or bleeding diathesis) (6).

Emergency treatment is reserved for those patients with actively bleeding MWS and with aforementioned risk factors. Emergency treatment modalities include surgical and non-surgical approaches. Non-surgical procedures consist of balloon tamponade of the esophagus, transcatheter arterial embolization, systemic or selective arterial infusion of vasopressin and endoscopic interventions (2). In recent decades, several endoscopic methods have been the treatment of choice (7). This includes thermal coagulation, band ligation, hemoclip placement and injection of various agents such as epinephrine, absolute alcohol, hypertonic saline solution and 1% polidocanol. Of these, epinephrine is the most commonly used agent (6). Primary hemostasis obtained with epinephrine injection ranges from 93% to 100%. However, recurrent bleeding occurs in 5.8% to 44% of patients (8). The mechanisms of hemostasis induced by

epinephrine injection are vasoconstriction, vessel compression and platelet aggregation. Injection of large volumes of epinephrine is recommended to prolong the hemostatic effects of mechanical compression and vasoconstriction (9). We performed endoscopic injection of 18mL of 1/10 000 epinephrine in our two patients and bleeding did not recur in any patient.

Surgical intervention should be reserved for hemodynamically instable patients with actively bleeding MWS when other nonsurgical procedures fail. Gastrotomy and hemostasis of the bleeding gastroesophageal mucosal tear should be performed. We performed emergent laparotomy and repair of the gastroesophageal tear in our first case. No complication has occurred during 8-month follow-up.

In summary, although MWS-related bleeding is usually mild and self-limited, some patients, especially those with hemodynamic instability, comorbidity, coagulopathy and high-risk of active bleeding may require emergency treatment. The severity of the bleeding, the technical equipment and the experience of the medical team are important in the treatment of MWS.

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Author Information

Volkan Özben, MD

Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Fadıl Ayan

Associate Professor, Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Erman Aytaç, MD

Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Adem Karataş, MD

Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Osman Baran Tortum

Professor, Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Kadir Bal

Professor, Istanbul University, Cerrahpasa Medical School, Department of Internal Medicine, Istanbul, Turkey

Melih Paksoy

Professor, Istanbul University, Cerrahpasa Medical School, Department of General Surgery, Istanbul, Turkey

Ziya Salihoğlu

Associate Professor, Istanbul University, Cerrahpasa Medical School, Department of Anesthesiology, Istanbul, Turkey