An Uncommon Cause of Upper Gastrointestinal Bleeding: A Case Report of Mallory: Weiss Tear

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Abstract

Mallory-Weiss tear refers to a condition in which the lining of the esophagus tears due to excessive strain, resulting in bleeding. This condition is commonly caused by vomiting or retching and can lead to significant complications if not promptly treated. Early identification and management of Mallory-Weiss tear are critical for the prevention of further damage and the promotion of optimal patient outcomes. Clinicians should maintain a high index of suspicion for this condition in patients with a history of retching or vomiting and prioritize appropriate diagnostic and therapeutic interventions to minimize the risk of adverse outcomes.

Keywords: Mallory – Weiss Tear, Esophagus tears, Gastroesophageal reflux disease.

Introduction

Mallory-Weiss tear is a medical condition that refers to a tear or rupture in the lining of the esophagus or stomach. It usually occurs as a result of excessive vomiting, coughing, or straining, and can cause symptoms such as severe abdominal pain, vomiting blood, and black, tarry stools. The condition is named after two doctors, Kenneth Mallory and Soma Weiss, who first described the tear in 1929. While Mallory-Weiss tears can often heal on their own, in severe cases, medical intervention may be necessary to prevent complications such as bleeding, infection, or perforation of the esophagus or stomach.[1]

Excessive alcohol use is regarded as one of the most major risk factors, with around 50% to 70% of people diagnosed with Mallory-Weiss syndrome having a history of the condition. The severity of upper GI bleeding in Mallory-Weiss syndrome is also known to be greater when portal hypertension and esophageal varices are present.[2]

Additional risk factors are bulimia nervosa, hyperemesis gravidarum, and gastroesophageal reflux disease (GERD). All of these disorders entail reflux of stomach contents into the oesophagus. Nevertheless, none of the above-mentioned risk factors were found in a significant proportion of patients (approximately 25% of cases).[3]

The syndrome is caused by recurrent actions of a rapid increase in intraabdominal pressure, which including retching, vomiting, straining, coughing, cardiopulmonary resuscitation (CPR), or abrupt abdominal injuries.[2] A Mallory-Weiss tear refers to a tear in the mucous membrane lining of the lower esophagus or upper stomach. The tear is usually

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caused by forceful or prolonged vomiting, coughing, or straining, which increases the pressure in the abdominal cavity and can result in a partial or full-thickness tear.[4]

The pathophysiology of a Mallory-Weiss tear involves the following sequence of events:

Increased intragastric pressure: An increase in the pressure inside the stomach due to forceful vomiting, coughing, or straining can lead to a sudden increase in the pressure within the lower esophagus and upper stomach.

Shearing force on the mucosa: The sudden increase in pressure causes a shearing force on the mucous membrane lining the lower esophagus and upper stomach, leading to a tear or laceration.[5]

Blood vessel rupture: The tear or laceration may involve blood vessels in the submucosal layer, leading to bleeding.

Contraction of muscles: The bleeding can stimulate the contraction of the muscles in the area, which can cause further tearing and exacerbate the bleeding.

Activation of coagulation cascade: The exposure of submucosal blood vessels to the bloodstream can trigger the coagulation cascade, leading to the formation of a clot and the cessation of bleeding in some cases.[6]

The severity of a Mallory-Weiss tear can range from mild bleeding to life-threatening hemorrhage, depending on the depth and extent of the tear and the presence of underlying conditions that may impair blood clotting or increase the risk of bleeding. Treatment typically involves supportive measures, such as fluid resuscitation, blood transfusion, and endoscopic therapy to control bleeding and promote healing.[7]

Prevalence: A study published in the American Journal of Gastroenterology in 2020 found that the prevalence of Mallory-Weiss tear in the United States was 2.2 cases per 100,000 persons per year.[8]

Diagnosis: The diagnosis of Mallory-Weiss tear is usually made using upper endoscopy, a procedure in which a flexible tube with a camera is inserted through the mouth and into the esophagus and stomach. However, a study published in the Journal of Gastrointestinal and Liver Diseases in 2021 found that endoscopy may not always be necessary for the diagnosis, and that other tests such as esophageal manometry and pH monitoring can also be useful.

Treatment: The treatment of Mallory-Weiss tear typically involves supportive care such as intravenous fluids and blood transfusions if necessary. In some cases, endoscopic therapy such as injection of epinephrine or placement of clips may be necessary to stop bleeding. A study published in Gastrointestinal Endoscopy in 2021 found that endoscopic therapy was effective in treating Mallory-Weiss tear, with a success rate of 88%.[9]

Prognosis: The prognosis of Mallory-Weiss tear is generally good, with most patients recovering within a few days to a week. However, in rare cases, complications such as aspiration pneumonia or esophageal stricture may occur. A study published in the World Journal of Gastroenterology in 2020 found that the mortality rate from Mallory-Weiss tear was 0.04%.[10]

Case Report

A 77 years old female patient came with complaint of coffee colored vomiting in the last one day, also she had a past medical history of Mallory Weiss Tear, Parkinson's Disease with Dementia and was also bed ridden from last 3 years. While admitting to the emergency department patient was hemodynamically stable and was managed with IV fluids, Pantop infusion and other supportive therapy. All the reports (i.e., blood, coagulation profile, serology, LFT, KFT) were normal. X-ray of chest was also normal. Ultrasonography of whole abdomen was done and suggested for hepatic cyst. Patient denied for melena and hematemesis.

Patients' vitals were normal and on ultrasound whole abdomen report, observations found were: poor acoustic window due to excessive bowel gas and also compromised study as patient was unable to hold the breath. A cystic SOL (space occupying lesions) were found at the right lobe in the liver of size 2.7 x 2.9 cm. Upper gastro- intestinal endoscopy report showed Mallory Weiss Tear in the Gastro-oesophageal junction with no visible vessel or active bleeding.

Patient was treated with medications Tab Pantoprazole 40 OD, Syp. Sucralfate 2 tsp BD, Tab Rasagiline 1 mg OD was prescribed to treat Parkinson's disease, Tab Levodopa (100mg) + Carbidopa(25mg) TDS, Tab Donepezil + Memantine 5mg OD HS. Syrup Lactulose was prescribed for constipation.

Patient was advised to continue with liquid oral diet and also monitor the vitals continuously. Later on, patient was also diagnosed with Syrup Potklor 15ml TDS. Antibiotic i.e., Inj. Ofloxacin 200mg was also prescribed to the patient during her hospital stay.

During discharge, patient was hemodynamically stable with no episodes of melena, and hematemesis with stable stool episodes. Patient was prescribed with antibiotics like tablet ofloxacin 200mg 1 tablet twice in a day for 5 days, tablet metronidazole 400mg 1 tablet twice in a day for 5 days, proton pump inhibitor like tablet pantoprazole 40mg 1 tablet twice in a day before meals to continue, syp sucral-o suspension (combination of sucralfate + oxetacaine) 2 tsf twice daily to continue, tab syndopa plus (combination of levodopa (100mg) and carbidopa (25mg)) 1 tablet OD daily, tab amantadine 100mg- 1 tablet OD daily for parkinson's disease, tab Donep-M (combination of Donepezil(5 mg)+ Memantine (5mg)) 1 tablet HS, tab Thyroxine 100mcg 1 tablet OD before breakfast, tab Verapamil 40mg 1 tab three times daily, tab rabeprazole 20mg 1 tablet once daily, tab Ursodeoxycholic acid 150mg 1 tablet three times a day, tab tramadol 50 mg 1 tab thrice daily, tab alprazolam 0.25mg OD at bedtime.

Patient was also advised for Foley's catheter in situ (from hospital) and to get it change after every 1 week. Follow -up to be done after 2 weeks.

Discussion

This patient is 77 years old female having Parkinson's disease and Dementia and also bed ridden. Since one day patient was having coffee colored vomiting. And then admitted to the emergency department of the hospital. On the first day patient's vitals were monitored and was given antacid, Syrup sucralfate suspension, Levodopa and carbidopa, Rasagiline (drugs for Parkinson's Disease), injection cefotaxime 1gm twice in a day, later on second day antibiotic changed to ceftizoxime and also vomiting was stopped. Patient was on the oral liquid diet and syrup Duphalac oral solution was started. On the third day syrup Potklor was added in the therapy and also all the vitals were stable. On the fourth day patient was advised for the USG and in that Hepatic cyst was observed and was continued with the liquid diet; also injection ofloxacin 200 mg was added. On the sixth day patient was discharged with medications including antacids, antibiotics, sucralfate suspension, anti-parkinsonian drugs, anti-anginal, tab thyroxine, analgesic, tab Ursodeoxycholic acid, benzodiazepines. Patient was hemodynamically stable during the discharge and also advised to review in the OPD after 10 days.

Conclusion

Patient was diagnosed with Mallory Weiss Tear due to Erosive Antral gastritis. Admitted to the emergency department with complaint of coffee colored vomiting and Parkinson's Disease and Dementia. On USG it showed a cystic SOL. Patients vitals were hemodynamically stable during admission. Patient was further treated with antacids, medications for Parkinson's Disease and Dementia, antibiotics, suspension. Mallory Weiss Tear mostly caused by continuous vomiting with coughing, hematemesis. In some cases, this leads to severe internal bleeding. If this is not treated, it may lead to shock and then death.

Conflict of Interest: None.

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Ethical Clearance: Not required as no intervention done in patient treatment.

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