International Journal of Research and Review
Volume 11; Issue: 4; April 2024
Website: www.ijrrjournal.com
Case Report *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

Mallory-Weiss Syndrome - A Case Report on Diagnosis and Management

Fiyona K George[1], Dhanya Mary Mathew[2], Dr. Asha Mathew[3]

[1,2,3]Department of Pharmacy Practice, Bapuji Pharmacy College, Davangere, Karnataka.

Corresponding Author: Fiyona K George

DOI: https://doi.org/10.52403/ijrr.20240431

ABSTRACT

Mallory-Weiss Syndrome (MWS) is one of the causes of upper gastrointestinal (GI) bleeding that is distinguished by the presence of longitudinal superficial mucosal lacerations known as Mallory Weiss tears, which are induced by violent vomiting, retching, or straining. In this case, a 30-year-old male patient came with the complaints of vomiting (8-10 episodes which was blood tinged and bile tinged), brown-black coloured stools and inability to take food and liquids orally since 1 day. Also, the patient is a chronic alcoholic since 15 years. An upper GI endoscopy revealed a mucosal laceration at gastro-esophageal junction – Mallory Weiss Tear. Results of routine biochemical investigations showed anemia. The patient was treated with Proton Pump inhibitors, anti-emetics, antibiotics, vitamin supplements, etc. On the third day, the patient was symptomatically better with no new complaints and was discharged.

Keywords: Mallory Weiss Syndrome (MWS), mucosal lacerations, Hematemesis, Upper GI bleeding

INTRODUCTION

Mallory-Weiss Syndrome (MWS) is one of the causes of upper GI bleeding that is distinguished by the presence of longitudinal superficial mucosal lacerations known as Mallory Weiss tears, which are induced by violent vomiting, retching, or straining. These tears occur largely near the gastro-esophageal junction. It can also spread proximally to the lower and middle esophagus, as well as distally to the stomach's proximal region.[1-2]

It is called Mallory Weiss tears after two doctors, Kenneth Mallory and Soma Weiss, who in 1929 described tears in the lower esophagus in people who experienced forceful retching or vomiting after drinking too much alcohol as Mallory Weiss tears. These tears often measure 0.75 to 1.5 inches in length. It is more commonly seen in people of age 40-60 years. Also, men are at a higher risk compared to women.[3]

The proper mechanism behind the occurrence of Mallory Weiss tear is still no known, but it is proposed that an abrupt and sudden rise in the intra-abdominal pressure due to conditions causes the gastric contents to rush into the esophagus under pressure. The excess pressure from the gastrointestinal contents can lead to longitudinal mucosal tears.[2] Severe vomiting or retching, heavy lifting or straining, prolonged coughing, chest or abdomen trauma, and CPR are the main causes of elevated abdominal pressure. Conditions that predispose the patients to MWS include heavy alcohol use, bulimia, cyclic vomiting syndrome, esophageal varices, hyperemesis gravidarum, GERD, etc.[3]

Hematemesis (85%), melena, weakness, dizziness, and chest or abdomen discomfort are the primary symptoms. If the tear is severe enough to cause internal bleeding, shock symptoms such as agitation, anxiety, nausea, palpitations, elevated heart rate, etc.

The gold standard for confirming a Mallory Weiss tear diagnosis is upper GI endoscopy. In addition, coagulation profiles, LFTs, and CBCs can also be performed.[1]

Usually the bleeding from the tear stops within 72 hours but agents like H2RAs and PPIs can be given to help the esophagus and stomach to heal. Proton pump inhibitors are given intravenously to patients undergoing endoscopy.[3] If the bleeding is not stopped, endoscopic treatments like endoscopic injection therapy, endoscopic band ligation, etc. can be used. If these are not successful, angiotherapy may be considered. Surgery is rarely necessary and is used only if endoscopic and angiographic procedures failed.[1] If the tear is not treated, it can lead to anemia, fatigue, shortness of breath and even shock.

CASE DESCRIPTION

A 30year old male patient with no known comorbidities came to casualty with the complaints of vomiting (8-10 episodes) since 1 day which was sudden in onset, progressive, blood tinged and bile tinged. The patient also complained of brown-black colored stools since 1 day and had inability to take food and liquids orally since 1 day. The patient is a chronic alcoholic since 15 years (discontinued 5 months back). The patient was conscious and alert on examination and the vitals of the patient were, BP: 130/70mmHg, PR: 80bpm and RR: 22cpm, CVS: S1S2 +, RS: B/L AE+, P/A: Soft and non-tender, SpO2: 100% at RA, Pallor +. On admission the patient was treated with Inj. PANOR (Pantoprazole) 40mg, Inj. ONDEM (Ondansetron) 4 mg. Relevant laboratory investigations were done which showed anemia and some abnormalities in the LFTs. A surgeon's opinion was taken I/V/O Upper GI bleed, who advised 1 pint PCV transfusion along with IV fluids (Ringer Lactate) at 100ml/ hour, Inj. Pause (Tranexamic Acid) 1000mg Stat followed by 500mg BD, Ondansetron 4mg stat and then TID and Pantoprazole 80mg infusion at a rate of 50ml/hour. It was also instructed not to take anything by mouth. Blood transfusion was done and it was uneventful. USG Abdomen and Pelvis was performed and the results were normal. A Gastroenterologist's opinion was also taken who recommended an Upper GI Endoscopy. The endoscopy was done and the results showed mucosal laceration at gastro-esophageal junction – Mallory Weiss Tear. On day two, as per the advice from the gastroenterologist, Pantoprazole IV infusion was continued apart from which IV antibiotics (TWIBACT – Cefoperazone 1g + Sulbactam 500mg on day 1, changed to Inj. Ceftriaxone 1g on day 2) and Syrup. SUCRAFIL (sucralfate 500mg/5ml) 10ml QID was also added. The patient was advised to take liquid oral diet. Other medications given to the patient were Inj. RASTIK (Rabeprazole) 20mg OD, Inj. OPTINEURON (Thiamine+ Pyridoxine + Cyanocobalamin + Vitamin B2 + Nicotinamide + D- Panthenol) in 100ml NS OD and Inj. Thiamine in 100ml NS BD. On the third day, the patient was symptomatically better with no new complaints and was discharged. The prescription on discharge included Tab. VERDOCEF (cefpodoxime poxetil) 200mg BD for 5 days, Tab. PAN-D (Domperidone + Pantoprazole) OD for 7 days, and SUCRAFIL Syrup (sucralfate 500mg/5ml) 10ml TID for 7 days.

Lab Investigations- CBC: Hb – 8.6g/dl, RBC – 2.8 million cells/cumm, PCV - 25.8%, TC – 8180 cells/cumm, neutrophils – 74%, Lymphocytes – 22%. Liver Function Tests: Total Bilirubin – 2.0mg/dl, Direct Bilirubin – 0.5mg/dl, Indirect Bilirubin – 1.58mg/dl, Total Protein – 5.7g/dl, Albumin - 3.4g/dl, Globulin – 2.3g/dl, AST – 59.0U/L, ALT – 25.2 U/L, ALP – 85.8 U/L, GGT – 43.0 U/L. **Upper GI Endoscopy:** Mucosal laceration at gastro-esophageal junction – Mallory Weiss Tear.

DISCUSSION

Mallory Weiss syndrome is characterized by mucosal lacerations which occur mainly at the gastro-esophageal junction. It is usually caused by severe retching or vomiting.

Mallory Weiss tears are found in 1% to 15% of persons with esophageal or stomach bleeding. This patient presented with the complaints of hematemesis and melena which are the two main symptoms of MWS and the patient was also a chronic alcoholic since 15 years which is a main risk factor for this condition. It may not cause any symptoms in mild scenarios and hematemesis is usually the presenting symptom in 85% of the cases. Other symptoms such as melena, dizziness or syncope can also be seen in case of severe bleeding. Immediate attention and care should be given if the patient is presenting with hematemesis. Given that Mallory Weiss syndrome is mostly self-limiting, the initial steps taken in treating the patient should involve stabilizing the general condition of the patient and reducing the symptoms associated with the condition. In this case, the patient was initially treated with an anti-emetic and a Proton pump inhibitor (PPI) to manage the complaints presented by the patient. After expert opinion and necessary investigations, appropriate treatment was given to the patient which included IV fluids to stabilize the patient and a high dose PPI given intravenously to reduce gastric pH and to help the laceration to heal. A PCV transfusion was also done since the hemoglobin level was low and there were signs of bleeding. Other agents like sucralfate and vitamin supplements were given as supportive treatment. Although self-limiting, it can sometimes lead to severe bleeding requiring endoscopic intervention or, in rare cases, surgery. Thereby proper diagnosis and management of MWS is necessary. It is usually diagnosed with an upper GI endoscopy which may also help in determining the underlying causes. It is also crucial to identify and address the underlying risk factors such as alcohol abuse to prevent the recurrence.

CONCLUSION

In conclusion, Mallory-Weiss syndrome (MWS) is a condition characterized by mucosal lacerations in the lower esophagus or upper stomach, typically precipitated by severe retching or vomiting. While MWS often resolves spontaneously with supportive care, including intravenous fluids and sometimes blood transfusion in cases of severe bleeding, management may also involve endoscopic intervention in select cases. The management of MWS requires a multidisciplinary approach involving gastroenterologists and other specialists as necessary. Also close monitoring and individualized treatment plans are essential to optimize patient outcomes and prevent complications. Furthermore, recognizing and addressing underlying risk factors such as alcohol abuse or eating disorders is crucial to prevent recurrence and improve long-term prognosis. Overall, a comprehensive understanding of MWS and its management strategies is essential for healthcare providers to effectively diagnose, treat, and manage this condition.

Declaration by Authors

Acknowledgement: We would like to thank our Principal Dr. A. P. Basavarajappa and our HOD, Dr. G. L. Prabhushankar for their valuable support. We also acknowledge the help and guidance we received from our teachers and friends.

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

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How to cite this article: Fiyona K George, Dhanya Mary Mathew, Asha Mathew. Mallory-Weiss syndrome - a case report on diagnosis and management. *International Journal of Research and Review*. 2024; 11(4):274-277. DOI: *https://doi.org/10.52403/ijrr.20240431*

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