

# Mallory - Weiss Tear With Hiatus Hernia In A Post-Acute Coronary Syndrome Case: A Case Report.

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**Abstract:** Upper gastro-intestinal bleeding is more common than bleeding from lower GI tract. Upper gastro-intestinal bleeding presenting due to Mallory - Weiss tear with hiatus hernia is a rare entity. A 57-year-old gentleman with pre-morbid condition of gastritis and acute coronary syndrome on aspirin therapy presented with 5-10 episodes of hematemesis and severe epigastric pain. Gastroscopy revealed Mallory - Weiss tear in the stomach with hiatus hernia and minimal blood clots. This case reports on the association of Mallory - Weiss tear with hiatus hernia and its unusual presentation in an acute coronary syndrome patient as well as assessing the disease with risk scoring methods. This case is reported for the first time from Malaysia.

**Key Word:** Acute coronary syndrome; Hiatus hernia; Mallory - Weiss tear; UGIB.

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## I. Introduction

Upper gastrointestinal bleeding (UGIB) is one of the common surgical emergencies in the world. Studies show an overall incidence of 100 - 105 per 100000 populations per year in USA and around 95 - 110 per 100000 populations in United Kingdom<sup>1, 2</sup>. Considering Malaysia it is approximately 70 -75 per 100000 population per year<sup>3</sup>.

UGIB is divided into variceal bleeding (20%) and non-variceal [80% - from peptic ulcer, erosions, stress related mucosal damage, Mallory - Weiss tear (MWT), malignancy etc.] bleeding. Of these MWT accounts for 5-15% of the non-variceal UGIB and mostly the tear is found near the gastro-esophageal junction and cardiac end of stomach<sup>4</sup>. The risk factors include chronic usage of non-steroidal anti-inflammatory drugs (NSAID's - salicylates), Helicobacter pylori (H.pylori), alcohol abuse and disorders such as bulimia. Commonly non-variceal bleeding presents with a history of drug use (aspirin) or pre-morbid diseases like dyspepsia, gastritis or even comorbid diseases such as cardiac diseases, hiatal hernias, gastro esophageal reflux etc<sup>5</sup>.

So in this context we report on a unique case of MWT with hiatus hernia in a post-acute coronary syndrome (ACS) patient on aspirin. This case report is presented for the first time from Malaysia.

## II. Case Report

A 57-year-old gentleman with a pre-morbid condition of gastritis and acute coronary syndrome (ACS) on aspirin diagnosed 2 years back presented with severe epigastric pain of 1 day duration. The pain was of colicky and burning in nature with no radiation associated with vomiting which occurred 5-10 times during the same day. The content was blood mixed with fluid around half a cup per episode. No other constitutional symptoms were noted. He is a non-smoker but occasional drinker.

On clinical examination he was conscious, mildly anemic but not in shock. His vital signs were within normal limits (pulse - 76 beats/minute and blood pressure - 110/70mmHg). Abdominal palpation revealed severe tenderness in the epigastric region with no palpable mass. All other systemic examinations were normal.

With clinical diagnosis of UGIB secondary to gastritis and drug (aspirin) induced, he was investigated. The significant laboratory reports were - hemoglobin - 7.6g/dl, packed cell volume - 25%, WBC-count - 12.5x10<sup>3</sup>/mm<sup>3</sup> and serum amylase - 200mg/dl. Other reports were normal. Electrocardiogram (ECG) and Echocardiography (ECHO) was normal. Gastroscopy (UGE) revealed MWT's in the stomach with sliding hiatus hernia and minimal blood clots but no evidence of active bleeding.

As per the protocol of treatment of upper non-variceal bleeding in Malaysia, he was found to be in low risk group and kept nil by mouth with nasogastric lavage. Subsequently he was treated with broad spectrum antibiotic with proton pump inhibitor (PPI) and an antiemetic for a week. The pre-morbid condition of ACS was taken care off. The patient recovered well and was discharged with continuation of Cyclooxygenase 2 inhibitor (COX-2) with PPI and to follow-up with physician.

### III. Discussion

UGIB is more common than lower GIB and the dividing factor is the ligament of Treitz. The incidence of UGIB is twice as high in men as in women. The incidence markedly increases with age showing peak occurrence between 4th and 6th decade similar to our case<sup>3</sup>. Most patients presenting with UGIB have an active comorbid (medical illness) condition as evidenced in our patient with ACS and the reported incidence is 50.9%<sup>6</sup>. As many ethnic groups are residing in Malaysia, certain studies show that residences of west Malaysia have the relative risk of UGIB<sup>7</sup>.

Considering the risk factors, NSAID's including aspirin, H. pylori infection continue to be the common cause for UGIB. Aspirin on daily usage has shown to increase the risk of UGIB by 2 - 4 fold as corresponding to presented case. The risk of UGIB is similar among users of non-coated low-dose aspirin and coated low-dose aspirin<sup>8</sup>. Other risk factors associated with NSAID's induced UGIB include concurrent use of corticosteroids, anticoagulants, antithrombotic or bisphosphonates. Normally, in post-acute coronary syndrome patients, dual antiplatelet therapy (DAT) of aspirin & clopidogrel are given along with proton pump inhibitor (PPI) to reduce the risk of UGIB<sup>6</sup>. In the presented case the patient was only able to recall one drug namely aspirin but was not sure of other drugs.

In contrast, erosive diseases like erosive esophagitis, gastritis and gastroduodenitis may also be responsible for UGIB in around 5 - 30% of cases<sup>9</sup>. This is due to mucosal damage of UGI either because of concurrent usage of NSAID's and/or H. Pylori infection. Studies show that nearly 47% of patients develop erosion with less than 3 months of aspirin therapy<sup>9</sup>. So in the presented case long term intake of aspirin (2 years) without other known drugs would increase the risk of bleeding and could be an exacerbation factor for MWT.

Mallory - Weiss syndrome presents as UGIB disease secondary to non-ulcerative and gastric mucosal tears (sub-mucosal arteries) called as MWT. Studies show that undue retching, frequent vomiting, straining at stool, coughing, or hiccupping precede episodes of hematemesis in cases of MWT<sup>4</sup> like the case presented above. Sudden increase in intra-gastric pressure may result in the development of MWT. Certain other risk factors may include gastroscopy (0.05-0.50%), hiatal hernia (5-10%), alcoholic binges (20-40%) and salicylate ingestion (35-40%)<sup>5,10,11</sup>. In certain cases, tear may occur prior to first vomiting and some tinge of blood may be noted in the patient's initial emesis. This is more common if the patient had a pre-existing hiatal hernia<sup>5</sup> as similar to our case.

A proper history and good clinical examination would suggest the etiology of UGIB. Apart from the history of retching in cases of MWT, no specific physical findings can rule out MWT as in our case. 90% of UGIB due to MWT resolve spontaneously with residual 10% of cases requiring surgical intervention<sup>12</sup>. Although UGIB may resolve spontaneously, patients with high risk of re-bleeding and mortality include old age, chronic medical comorbidities and shock. So when a patient presents with UGIB, risk assessment and resuscitation should proceed simultaneously. Laboratory values are used to assess the severity of the bleed while depending on the presentation, resuscitative methods are carried out to improve hemodynamic stability as well as to prevent shock. Early UGE is the key factor in the management of UGIB in all risk groups with 3 roles of diagnosis, treatment, and risk stratification<sup>13</sup>.

A number of scoring systems have been designed to ascertain the risk stratification and appropriate management of high risk UGIB patients. Two such scoring systems include Blatchford risk score (BRS) and Rockall score (RS)<sup>14,15</sup>. BRS use clinical and laboratory variables while RS use clinical and endoscopic criteria in predicting re-bleeding and mortality. Comparing to other prognostic scoring system, RS suggests accurate diagnosis. The clinical and endoscopic variables of our case were compared with RS, as RS is recommended in the algorithm management of non-variceal UGIB, by Malaysian Society of Gastroenterology and Hepatology clinical practice guidelines<sup>13</sup>. The results are tabulated in Table - 1.

The management of acute UGIB, ranges from endoscopy therapy, injection therapy, thermal therapy, laser therapy to pharmacological therapy and continues further to surgery<sup>13</sup>. No studies have shown the appropriate treatment for UGIB due to MWT with hiatus hernia. As per the protocol laid by Malaysian Society of Gastroenterology and Hepatology clinical practice guidelines and as well taking in consideration the RS of  $\leq 2$ , the patient was offered pharmacological therapy with good recovery<sup>13,15</sup>. Considering his comorbid condition and chances of re-bleed of 8 - 10% in MWT cases<sup>16</sup>, continuation of COX-2 inhibitors with PPI - pantoprazole was opted in the follow-up. There was no mortality (or) morbidity.

### IV. Conclusion

Mallory - Weiss tear with hiatus hernia in an ACS case is rare entity. This case illustrates that hiatal hernia is a predisposing factor and is found in patients with Mallory - Weiss tears as observed in gastroscopy. Severe retching and vomiting would induce these tears by increasing the trans mural pressure gradient within the hernia than the rest of the stomach. Rockall scoring surely helps in predicting the risk group. Patients requiring long term NSAID therapy with heart diseases should need to continue on COX-2 inhibitors with PPI (or) should be referred to their primary care physician for appropriate management.

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**Table - 1 Rockall Scale.**

Clinical & Endoscopic Variables	Scores	Present study
<b>Age</b>		
< 60 years	0	0
60 - 79 years	1	
> 80 years	2	
<b>Shock</b>		
Heart rate > 100 beats / mt	1	
Systolic blood pressure < 100 mm Hg	2	
<b>Coexisting illness</b>		
IHD, CCF, Other major illness	2	2
Renal failure, Hepatic failure, Cancer	3	
<b>Endoscopic diagnosis</b>		
No lesion, MWT	0	0
Peptic ulcer, erosions, esophagitis	1	
Cancer of upper GIT	2	
<b>Endoscopic stigmata of recent hemorrhage</b>		
- Clean based ulcer, flat pigmented spot	0	
- Blood in upper GIT, active bleeding, visible vessel, clot	2	
<b>Scoring:</b>	<b>Total Score</b>	<b>Score:</b>
≤2 = Low risk / 3-7 = Moderate risk / ≥8 = High risk	Max. 11	≤ 2 = Low risk