

1361-142-VN

9/9/77
C/19.7

HAEMATEMESIS AND MELENA

Thesis

Submitted for the fulfilment of the
M.Ch.
Degree M.S. Surgery.

by

Dr. Hussein Alyan .

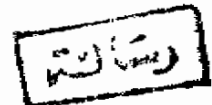
Supervisor

Prof. Dr. Mahmoud Nageeb.

1977

Fac. of Medicine

Ain Shams Univ.



8530



[Handwritten signature]

6/6.32
H.A.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to prof. Dr. Mahmoud Nageeb , professor of surgery, Ain-Shams University, to whom I am indebted for his continuous and invaluable supervision for bringing this work to a successful conclusion.



Definition of terms

Haematemesis refers to vomiting of blood, either bright red or darkened because of its conversion to hematin by hydrochloric acid in the stomach.

Melena refers to the passage of black tarry stools containing digested blood. Characteristically, the material is coal-black, shiny, foul smelling sticky, and in consistancy closely resembles tar.

Haematemesis melena or both appear after bleeding into the oesophagus, stomach, duodenum or upper small bowel. Haematemesis almost always arises from a bleeding site above the ligament of Trietz, whereas the rectal passage of bright red blood may mean a lesion anywhere in the gastrointestinal tract. Ordinarily it is the rate of bleeding rather than the level of the lesion that determines the color of the stools during the bleeding episode. An acute minor bleeding of 20-25 ml may lead to the passage of benzidene-positive stools, but bleeding a little more massive in the neighbourhood of 500 ml will lead to the passage of black stools. The time blood takes to traverse the length of the bowel is, of course, another important factor. A black stool results

from bacterial breakdown of haemoglobin and usually indicated leisurely upper gastro-intestinal bleeding. Colonic bleeding may result in a black stool when there is obstruction in the sigmoid, but this is rare. As little as 100-200 ml of blood introduced into the stomach experimentally will give a tarry stool but ordinarily 400 - 500 ml must be taken to give a black stools consistantly. After 1000 of blood red blood will be passed in four hour time if there is rapid transit, but the stool will be tarry if the blood remains in the gut as long as 20 hours. Similarly 200 - 400 ml of blood inserted into the caecum may be followed by a stool that is black , red or normal. These observations are paralleled by the clinical ones which make it clear that bleeding from the stomach may be followed by black tarry stools or by dark red clotted blood in the dejecta. As blood passes throught the intestine it becomes darkened and eventually black; this change will depend on the amount , site, rapidity of bleeding, and the rate of passage of blood. As little as 50 - 70 ml of blood in the upper intestinal tract may cause a tarry stool. Blood cauing melena usually has

its origin proximal to the ileum, though occasionally black stools follow bleeding into the lower small bowel or ascending colon. The term pseudomelena is used by some to describe black stools usually originating from the ascending colon, which on casual examinations looks like melena but not as shiny, sticky, or firm. The surface of a recently passed pseudomelena stool has a dark red sheen, and when examined against a white background, a narrowed red zone may be seen around the periphery.

Bright red blood in the stool, haematochezia, is usually due to bleeding from the lower colon.

With gross bleeding from the duodenum or small bowel and rapid intestinal transit, some or most of the blood in the stools may be dark, usually dark red. A mixture of red and tarry stools also occurs with bleeding from a Meckel's diverticulum. The stools may be tarry for several days after massive bleeding.

Haematemesis and melena, even when apparently minor initially, carry a potential threat to life, and must never be considered lightly. All patients with these symptoms should be admitted to hospital.

Sources & Causes of Bleeding

Haematemesis or melena can result from ; (1) Disease of the alimentary tract, especially the oesophagus, stomach and duodenum; (2) Disease in the neighbourhood organs which involves the upper alimentary tract; and (3) Systemic diseases including those of the blood vessels and blood.

There is about 10% of cases in which no cause will be demonstrated, despite intensive investigation. About 10% of such patient will have recurrent bleeding, the cause of which may defy diagnosis even after surgical exploration.

Bleeding That Originates from Diseases of the Alimentary Tract

Diseases Of The Oesophagus

Most of the oesophageal diseases can cause haematemesis and melena, of these, rupture of a varix is the most common cause of life threatening haemorrhage. Bleeding from oesophageal and/or gastric varices as a manifestation of portal hypertension accounts for about 5% of the cases of haematemesis and melena is usually the result of hepatic cirrhosis or much less often fatty

metamorphosis.

The cause of bleeding of bleeding in a patient with portal hypertension

The point of bleeding usually appear as a solitary clean tear or hole in the mucosa of the oesophagus within 1.5 cm of the oesophagogastric junction. Rarely bleeding results from associated oesophagitis, and probably rarely from erosions caused by coarse food or foreign bodies . A sudden increase in venous pressure such as follows straining possibly acts as a precipitating factor.

Haematemesis and melena in a patient with varices arises from other sources in about 30% of patients. Gastritis with erosions accounted for bleeding in 22% duodenal ulcer in 14 % and gastric ulcer in 6 % of 172 episodes of bleeding in 158 patients with cirrhosis. The ulcers may be acute or chronic. Bleeding from severe epistaxis, or rarely from small pharyngeal spider angiomas, may enter the stomach and be vomited or appear only as tarry stools and may be erroneously attributed to bleeding from a lower site. Hypoprothrombinaemia due

to severe hepatic disease is occasionally the cause of massive bleeding, but its usual effect is to make the control of bleeding more difficult. Rare causes of bleeding in a patient with cirrhosis include factor V deficiency, consumptive coagulopathy, haemolysis and platelet deficiency. In about 5 % of cases no cause can be found.

Bleeding from oesophagitis may occasionally be massive, but is usually occult or mild, and often intermittent or chronic. Melena is much more common than haematemesis except when bleeding is massive. A history of pyrosis or dysphagia due to stricture will suggest oesophagitis as the source of bleeding.

Peptic Ulcer of the oesophagus can cause severe bleeding, retrosternal pain during or shortly after eating and dysphagia will suggest the diagnosis. Like reflux oesophagitis, such an ulcer is frequently associated with, an oesophageal hiatus hernia and sometimes with a gastric or duodenal ulcer. Oesophageal ulcer can be demonstrated radiologically, but may be

confused with pseudodiverticulae when oesophageal stenosis coexists .

Violent retching or vomiting may cause one or more longitudinal laceration of the mucosa just below the cardiooesophageal junction, across it, or in the terminal oesophagus and may lead to profuse or lesser degree of bleeding from an artery in the base of the tear. This syndrome (Mallory - Weiss) is suspected from the history of vomiting stomach contents on one or more occasions , or of repeated retching or of forceful efforts other than vomiting which increase intraabdominal pressure, e.g. straining, coughing , or blunt abdominal trauma , followed by the occurrence of bright red or of coffee ground emesis. It accounts for nearly 5 % of cases of acute alimentary bleeding. The lesion can be demonstrated much more successfully by gastroscopic than by oesphagosopic examination and is best seen when the fundus is inflated just as the gastroscope is being withdrawn.

Malignant and benign oesophageal tumours are uncommon cause of haematemesis and melena accounting for 5% of cases.

Rare causes include the ingestion of corrosives, lodgement of foreign body , oesophagoscopic instrumentation including biopsy, traction diverticulum and specific forms of oesophagitis.

DISEASES OF THE STOMACH AND DOUDENUM

CHRONCC PEPTIC ULCER

Account for about 80 % of hospital cases of hematemesis and melena. About 80 % of cases of haematemesis and/or melena admitted to a hospital because of bleeding are due to peptic ulcer, of these about 30 % are acute ulcers. Chronic gastric ulcers account for 10 % of cases and 40 % of cases are due to chronic duodenal ulcers.

Gastric or duodenal ulcer bleeding may be manifest as haematemesis , melena or both , melena alone occurs more often than haematemesis becduise of the higher incidence of duodenal than gastric ulcer (approximately four to one). Haematemesis, however, occurs more often than melena alone in patients who bleed from a gastric ulcer.

Only about 30 % of cases of massive bleeding due to

ulcer occur in women. Bleeding may occur at any age, but about 30 % of cases occur during the fifth decade in men and the fourth decade in women.

An ulcer that first appear late in life is more likely to bleed than one that begins early in life.

Chronic gastric ulcers are more likely to bleed early in their course than chronic duodenal ulcers , regardless of the patient's sex.

There is a greater tendency for bleeding from chronic peptic ulcer to occur during the first year and a lesser one after the tenth one of the disease.

Haemorrhage is more common and more severe in postbulbar than bulbar duodenal ulcers, especially in men over the age of 50 years.

There is an increased risk of haemorrhage in ulcer patients with blood group O.

Bleeding may be the first indication of an ulcer in about 10 percent of patients "silent patients" are more likely to be gastric than duodenal.

Haematemesis and melena, or either alone can occur from recurrent ulcers after operations for ulcer

disease. Melena is the more common manifestation. After resection bleeding is usually from a jejunal ulcer just below the anastomosis but it may be from a stomal ulcer. Recurrent gastric, or persistent or recurrent duodenal ulcer, or gastric usually stomal, may also be responsible.

Bleeding in a patient with both gastric and duodenal ulceration presents added diagnostic and therapeutic problems. The association of peptic ulcer and other potential or actual bleeding sources, e. g., esophageal varices, hiatus hernia, and esophagitis, presents an even more formidable problem.

The association of bleeding and free perforation is not rare, particularly in older persons, this association occurs in 6 to 10 percent of cases of acute duodenal ulcer perforation. Bleeding may occur concomitantly with perforation, or either complication may follow the other, but free perforation occurs in less than 1 percent of patients admitted to hospital for massive bleeding.

Initiating or precipitating factors in bleeding from chronic peptic ulcer.

Why an ulcer bleed is unknown, but specific emotional

stress seems to play a background role . Many persons vomit blood seemingly shortly after receiving some upsetting news or in a period of acute mental stress. In others massive bleeding that follows the onset of a bad cold or upper respiratory infection may be ascribed to indiscriminate use of aspirin; sometimes one or two tablets of aspirin seem to have set off intestinal bleeding. Just as duodenal ulcer tends to be more common in spring and fall, so there seems to be "bleeding ulcer seasons". Many more patients bleed during the months of october through March than during the warmer months. Presumably climate, and possibly a high incidence of respiratory infection with consequent increased aspirin plays a role.

Pathology of bleeding ulcer Bleeding from a duodenal ulcer has one of several sources (1) Either it pours from a large blood vessel , most commonly the gastroduodenal artery; or (2) it oozes from granulation tissue at the base of the ulcer; or (3) it comes from massive duodenitis around the ulcer. When bleeding comes from a large artery it is profuse and is unlikely to stop with medical management, in contrast to the oozing from

granulation tissue , which is small in quantity and transient in nature. Because of the gastro-duodenal artery, a posterior wall ulcer, particularly on the superior aspect of the duodenum, is more commonly to bleed than an ulcer of the anterior wall of the duodenum, an area free of large blood vessels . Hence the old rule that bleeding duodenal ulcers rarely perforate is a good generalisation. In cases of gastric ulcers the most severe type of bleeding arises when the ulcer erodes the splenic or the left gastric arteries.

It was suggested that bleeding is likely to be more persistent and less liable to spontaneous arrest in the aged than in the young due to the fact that rigid arteriosclerotic vessels in the aged are the source of haemorrhage. However more careful studies showed that arteriosclerosis is seldom found in gastric arteries or in artery exposed in the floor of the ulcer.

The tendency for a peptic ulcer to heal rapidly following a severe haemorrhage has been reported and clinical experience of many authors seems to confirm this observation.

Acute "stress" gastric and duodenal ulcers. Acute