Thesis
For the Degree of M.D.

Prepared by-
Owen Goulkes Evans
M.B.,C.M.

Subject - Haematemesis including its various causes, symptoms, diagnosis, and treatment.

Having during the last three years had under my care, a number of cases of haematemesis, it occurred to my mind, what a variety of causes might be at work to produce an escape of blood into the stomach, and the difficulty which one has occasionally in making an absolutely certain diagnosis as regards the cause of the haemorrhage - hence the few remarks which I am about to make on the subject, which I intend presenting as a
April 24th 1894

I, the undersigned hereby declare that the enclosed thesis is entirely composed by myself.

O. T. Evans
24th April 1894

Prof. Fraser.

Dear Sir, I beg to enclose my thesis for M.D., also my certificate for my third optional subject viz. French, and the signed declaration.

I remain

Yours faithfully,

O. F. Evans
Theseco for M. D.
when called to see a patient
in whom the chief symptom
is, blood coming through
the mouth and may be also
through the nostrils, the
first question one naturally
asks himself is, where does
this blood proceed from?
Of course first of all one
directs his attention to the
patient, and enquire how
the attack commenced, where
there was any feeling of
nausea, giddiness, faintness,
disturbance of vision,
pallor of the face, and
if the blood was expelled
by vomiting, or on the
other hand if the bleeding
came on suddenly and by
coughing, if we find the
former symptoms present, then
it points to haematemesis.
We should examine the mouth
jaws and nostrils also.
Next we direct our attention
the blood itself and
the following characters
will distinguish haematemesis.
from haemoptosis

Haematemesis

1. Black or brown colour
2. Blood as a rule is clotted either in large clots or in small ones resembling coffee grounds and frequently mixed with food.
3. Acid reaction and subsequent dark stools

Haemoptosis

1. Bright red colour
2. Blood is frothy from admixture with air.
3. Alkaline reaction and subsequent expectoration of blood and mucus.

Now after having come to the conclusion that the blood has come from the stomach, the next question to decide is, what has caused the escape of blood into that viscus. The following conditions might give rise to haematemesis—

Certain conditions of the blood such as scurvy, yellow fever, purpura, malignant small pox, acute yellow atrophy
of the liver. External injury.

Acute congestion. Passive congestion from cirrhosis of the liver, heart disease, diseased kidneys or lungs and pressure on the portal vein. Passive congestion from these causes retards the return of blood from the stomach. The flow becomes less and less brisk, the small veins in the mucous lining of the stomach become more and more congested and their walls get thinner and thinner until at last under the severe pressure they give way and haemorrhage results.

Atheroma of blood vessels is another cause, also ulcers of the stomach is a very frequent cause of haemorrhage, and perhaps this is the most frequent cause of haematemesis. I do not intend to enter into the subject of gastric ulcers only as it concerns haematemesis. Various reasons have from time to time been given for causing a gastric ulcer.

Rokitansky suggested that
This affection arose from haemorrhagic erosions.
Verehow adopted his view and developed it. He says
the gastric juice acts on the coats of the stomach, but this
cannot take place as long as the circulation is main-
tained, because the blood being alkaline, will neu-
tralise the acid of the
gastric juice, therefore the
circulation of a certain
part of the stomach must
be interfered with, such
as obliteration of an artery
or obstruction of a vein.
Panum injected little globes
of wax into the branches
of the abdominal aorta in
dogs, when they found their
way into the arteries of the
stomach, the mucous mem-
brane presented ulcers pretty
closely resembling a gastric
ulcer in its earlier stages.
Damage to any part of the
stomach wall as by the
forcible use of the stomach-
 pump, may cause such part
to loose its vitality sufficiently
for the gastric juice to act
on it.
Sometimes we meet with tub-
bercular ulcerations
right facing might be the cause
of an ulcer.
Anaemia undoubtedly tends
tends to produce this condi-
tion, it is difficult to ex-
plain how, but it is a remark-
able fact that in a number
of these cases the patients are
very anaemic, of course anaem-
ia often the result of the hem-
atemesis and malnutrition owing
to the condition of the stomach,
ulcerations tend on the other
hand anaemia often precedes
the hematemesis and the ulcers.
This might be due to dilatation
of the right side of the heart as
often is the case in anaemia
then backward pressure is the
result causing rupture of
the small bloodvessels in the
lining of the stomach——
Any condition of the stomach
which will cause the form-
ation of butyric acid to such
as dilatation, may cause coagulation in the blood vessels by the absorption of these acids afterwards. This portion of the stomach wall having lost its vitality is acted on by the gastric juice — irritant poisons also may cause haematemesis, every degeneration, and according to some we might have a necrotic haemorrhage.

Lastly, Cancer of the stomach is a frequent cause of haematemesis. In cancerous tumours we have a very rapid formation of blood vessels taking place and here one of the most common symptoms is haemorrhage either in the interior of the tumour or on the surface of it. Slight violence or congestion is sufficient to rupture the extremely thin-walled and brittle vessels of Cancer of the stomach.

After having studied the various causes of haematemesis, our next consideration must be the different treatment
necesary for the different causes.

In the treatment of course our first aim is to stop the haemorrhage but in order to attain this we must first decide to the best of our ability the cause—we shall divide the treatment into treatment of the attack and the after treatment.

Treatment of the attack—In all cases alike one of the most important points in treatment is rest, bodily, mentally, and locally to the stomach. The patient should lay in the horizontal position in a cool well-ventilated room and should the haemorrhage be very profuse or no account should the patient be allowed to change his room, wherever the patient should happen to be when attacked, if possible a temporary bed should be made for him. The anxiety of the patient...
should be calmed as much as possible. No food whatever should be allowed to enter the stomach, only an occasional piece of ice allowed to be sucked. Ice may be placed externally over the stomach or Epsom salts may be applied. Stimulants should be entirely avoided unless symptoms of collapse supervene. We should do all we can to lower the blood pressure, the haemorrhage itself has an influence in this direction nothing should be done to excite the action of the heart, the feet and legs and the skin generally should be kept warm, placing the feet in a hot foot bath with mustard may do good by lowering the blood pressure.

As regards treatment by drugs— we should not begin this by pouring ice into the stomach. The so called styptic medicines as in the majority of cases they will
Morphia in most cases acts like a charm and should be given in 10 or 20 mg. of the Dig. Morph. Hydrochlor., in a teaspoonful of cold water every four hours. The usefulness of this drug in haemorrhage was very clearly demonstrated to me in a patient who once took a fairly large dose of Morphia of her own accord. I had ordered her a mixture of the Dig. Morph. Hydro in water. The patient was very restless and got out of her bed with the result that haemorrhage again appeared, afterwards me a bit of temper she took the whole that was remaining of the Morphia mixture which would probably contain about 30 or 40 mg. of the Dig. Morph. Hydro. With the result that she slept for about fifteen hours, waking up next morning, calm, refreshed and in every way favorable and from that time made
an uninterrupted recovery.
I believe the Morphia acts beneficially in several ways
it calms the excitement
especially of a nervous patient;
calms the circulation, arrests
the peristaltic movements
of the stomach etc.
If after these measures
have been adopted the haem-
orrhage still continues urgent
may be injected hypodermically
5 or 10 mg. of the B. P. hypo-
dermic injection may be in-
jected every two or three
hours.
If this fails and the
haemorrhage getting alarming
we may try the styptic
remedies but these should
be used immediately after
vomiting has occurred, as
Dr. Burney Yeo has pointed
out that they are of little
use when the stomach is
partly filled with blood
and half digested food, they
must come in contact with
the bleeding mucous surface
to be of any service
Iarnic acid in 10 gr. doses may be given in cachets or
put on the tongue and washed
down by a little cool water,
every two or three hours.
Hydemic in teaspoonful doses is useful. Alum, sulphuric
acid, and acetate of lead
are sometimes useful and
lastly the perchloride of
iron, the dig. ferric perchlor.
Dil. in cool water answers
the best purpose.

If syncope threatens the
head should be placed low
Ammonia applied to the
nostrils, Cold water, sprinkled
on the face, and if the
syncope is alarming a
hypodermic injection of 20 mls.
of Ether may be given.

Starvation is of the utmost
importance, nothing whatever
in the form of food being
allowed by the mouth, the
patient must be fed entirely
by the bowel, peptonised milk
and nutrient suppositories
should be used, the nutrient
suppositories manufactured by
Messes Burroughs Wellcome & Co.
are very useful.
Having looked thus in a general way on the treatment of haematemesis, we may now look at some special features depending on special causes of haematemesis.
If the haematemesis is connected with any blood condition such as purpura etc.
this must be attended to. Turpentine and iron here acts beneficially.
Externally: if injury if present should be attended to by
the surgeon.
Acute congestion should be treated by counter irritation.
Bismuth, Soda &; &; given internally, and if the haem-
orrhage is only slight milk or peptonized food
might be given by the mouth.
Passive congestions again require appropriate treat-
ment. Cirrhosis of the liver sometimes gives a
good deal of trouble, here the great point is to relieve
The portal system, and this may be done by applying leeches to the arms, large doses of Sulphate of Magnesia, or $\frac{5}{4}$ of Calomel may be given, the calomel may be placed on the tongue and washed down with a little cold water. Nux vomica and Chloride of Ammonium are also useful in this condition.

In passive congestion resulting from heart disease, purging and diuretics do good and the condition of the heart must be treated with Digitalis and other heart tonics. Congestion due to Renal and Lung diseases must be treated by appropriate remedies to these conditions.

When the haematemesis is due to ulcers of the stomach this condition requires very careful treatment. After the haemorrhage has been controlled by the above measures the patient must be placed in the most favourable position to promote the healing of.
The Meer, and prevent further haemorrhage. Rest to the stomach is absolutely necessary, the patient must be fed for some days by the bowel until the bleeding point is fairly secured, then peptonized milk can be given by the month and Berger's peptonized meat jelly or chicken jelly are very useful, afterwards milk and lime water can be given and no other food until all pain and vomiting have entirely disappeared and that for sometime, this diet must generally be adhered to for about a month or six weeks or more if necessary. Vomiting must be controlled by Bromath, hydrocyanic acid and morphia, cocaine also is useful to relieve pain and vomiting. Anaemia which also has been given as a cause must be treated by iron arsenic. When cancer of the stomach
is the cause of haemorrhages
we must try and prevent
haemorrhage by keeping
the bowels regular, as we
have seen that any congestion
might cause haemorrhage.
In Cases, the diet of the
patient must also be care-
fully attended to.
A short history of a few
Cases may here be given
as bearing on the above
lines of treatment.

M. E. F. Age 82. A house maid who
had lived nearly all her life in
the country, until about six
months before her illness, when she
came to town. Previous to her
illness which I am about to
describe, she had for years suffer-
ed from what was supposed to be
indigestion, and treated accordingly;
she used to have severe pains
at times, after food, troubled with
flatulence & the usual symptoms
of indigestion, vomiting, then
being absent. After coming to
town, she became very anaemic
and suddenly one evening she
had a severe pain over the
region of the stomach, and vomited about two pints of almost pure blood. When I saw her, she had gone to bed and felt very faint and sick, and looked extremely pale. She was ordered to keep perfectly quiet, nothing being given her by the mouth except a little ice to suck, and a mixture of dig., Morph. Hydro. was ordered containing 5 m. in a teaspoonful of water. She was fed entirely per rectum for four days with peptonized milk and peptonized meat jelly (Berger). Then a little peptonized milk was given by the mouth as well as peptonized jelly in a little water; in a week she took milk and lime water; afterwards a little beef tea was allowed. She was kept on this diet for about three weeks, then a mixture containing the ferri et aconitum. This was prescribed on account of the anaemia, and gradually a little rare solid diet was allowed. She made a splendid recovery and ever since has
enjoyed perfect health, feeling better than she had done for years, enjoys her food and never troubled with pain or any discomfort. In this case there is very little doubt of the presence of ulcers in the stomach having existed for years, but probably not very extensive, when the patient came to town and the anaemia developed, the lining of the stomach being badly nourished by the blood, more ulcers developed or probably the old ones extended more and more until the haemorrhage appeared. The perfect rest which was given to the stomach and the condition of the blood being improved by the iron causing the ulcers to heal up, will account for the good health she has enjoyed since.

Miss M.C.D. Age 26. This patient was suddenly seized with haematemesis one evening, previous to this she had enjoyed fairly good health. She was extremely irritable, and restless. She was subjected to the same treatment
as the above patient only the morphia was given in larger doses. For two days she was doing well, but then contrary to orders she got out of bed and the haemorrhage returned, then the morphia mixture was continued in still larger doses especially at bedtime in a week she said she felt perfectly well and could no longer remain in bed or abstain from solid food. She however made a perfect recovery, probably, but the ulcer was very small and healed up in that time.

This patient was also ordered a mixture of Bormuth, Soda + Chloroform Water, which I believe is very useful when there are signs of any acidity being present in the stomach.

J.E. Age 67. This patient had been a pretty heavy drinker for many years, he however had enjoyed good health until within the last four years when he suffered from Rheumatic fever.

When I was called to see
him he complained of vomiting of black material mixed with the partly digested food. The vomiting came on at intervals of once or twice a day. He had no pain whatever. He was put on milk diet and a mixture of Bismuth Subacetate and Muriatic was ordered him, he improved for a time but gradually got worse again, then purging was tried large doses of Magnesium Sulphate were given, after this he improved slightly then colonel was given in 5 gr. doses and for a time he improved but afterwards the haemorrhage came back as bad as ever. Here the diagnosis was between carcinoma of the liver and cancer of the stomach. Prof Carter of Liverpool saw the patient with me and he agreed that the diagnosis lay between these two. The absence of pain being in favour of cirrhosis. We tried ergot and nearly all the astringents also again purging, but nothing proved of any value eventually the haemorrhage got
worse and worse and the vomiting got intractable nothing whatever remaining on his stomach not even a drop of cold water. The patient died in about three weeks from the commencement of the attack. Mrs. W. had one morning a sudden attack of vomiting of blood. Previous history clearly pointing to gastritis ulcer. She was treated on the same plan as the first case mentioned, with Morphine, rest & metal feeding also Bismuth was given with Soda for the acidity.

These cases will I believe suffice, out of a great number of similar cases to demonstrate that the main point in the treatment of haematemesis is rest, until the bleeding point is secured and if any erosions present for them to heal up, also the value of Morphine is clearly shown in these cases, and the undesirability of pouring into the stomach the sceptics without first trying the above method.