TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some diseases of the digestive system met with in general practice.

HAEMATEMESIS AND MELAENA

BY

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Haematemesis and melaena, or melaena alone, for each has the same significance—that is to say, bleeding from the lower oesophagus, stomach, or upper part of small intestine—may be profuse, moderate, or small in amount. Inasmuch, however, as a mild bleeding may be followed in three or four days by a profuse attack, every case in the first instance should be treated with great care and in the same way; although it is quite true that now and then one meets with a patient who has recovered without having consulted a doctor or who has had no treatment whatever.

Haematemesis, except when small in amount, is always due to the opening up of an artery or a vein, so that the treatment is precisely the same whatever may be the primary cause of the haemorrhage. In the later stages, when the bleeding has been arrested, a treatment appropriate to the disease giving rise to the haemorrhage is naturally to be adopted; and it is well to remember that the vast majority of cases of haematemesis are due to a peptic ulcer of the stomach or duodenum, because after the bleeding has stopped every case should receive a prolonged systematic treatment in order to promote the healing of the ulcer. A sudden haemorrhage without previous symptoms is almost always due to an acute peptic ulcer, rarely to a chronic one. Splenic anaemia may give trouble in diagnosis, because it does not produce gastric symptoms and bleeding may take place before the spleen is much enlarged, so that the latter may not be recognized owing to diminution in its volume from the loss of blood.

Haematemesis is always followed by melaena, and if this is absent the blood has probably been swallowed and subsequently vomited, or not been vomited at all. In such cases the cause should be searched for in the nose, pharynx, teeth, or lungs; the blood is usually small in amount, except in the rare condition of perforation of the oesophagus by an aneurysm.

The haemorrhage from a blood vessel in the stomach ceases as suddenly as it begins, owing to plugging of the vessel with a blood clot. Interference with this clot is the cause of recurrence of the bleeding, and is due to: (1) distension of the stomach, which opens up and stretches the ulcer; (2) the alternate contraction and relaxation of the muscular coats of the stomach, which dislodge the clot; (3) dilatation of the vessels due to active congestion during digestion; and (4) the gastric juice, which digests the clot. The aims of treatment are therefore directed towards keeping the stomach contracted, restraining its movements, maintaining the gastric glands in the resting state, and limiting vaso-dilatation. These are accomplished by securing complete rest for the stomach by the withdrawal of food and drink by the mouth, and by keeping the patient absolutely at rest physically and mentally.

Immediate Treatment

When a patient who has just had a profuse haematemesis is first seen a hypodermic injection of morphine hydrochloride, $1/3$ to $1/2$ grain, and atropine sulphate, $1/100$ grain, is to be given at once, and the patient is to

be made as comfortable as possible and kept perfectly quiet wherever he may be. After two or three hours the patient may be removed to bed in a quiet, well-ventilated room, the bed being so placed as to be free from draughts, and care being taken not to over-heat the room. The mattress should be firm and the bed coverings limited to a sheet and a blanket only, the pressure of these coverings being relieved if necessary by a cradle. The patient's head should be kept low and a hot-water bottle put at the foot of the bed, which it may be advisable to raise. The blinds should be partially drawn so that the face of the patient is well shaded, and he is encouraged to lie in the supine position at absolute rest. The application of ice to the epigastrium is not to be recommended.

The patient is not disturbed further for the first twelve hours. Whether the morphine should be repeated or not depends upon whether there is a further large haemorrhage and upon whether the patient is restless and sleepless, in which case it may be repeated in smaller doses—say, $1/6$ to $1/4$ grain for a few nights. As a rule haemorrhages, smaller in amount than the original loss, recur. They are announced by a rise in the pulse rate, feelings of faintness, giddiness, and sinking, and, perhaps, an increase in pallor. The intervals between them vary in length. There may be several attacks on the same day, or an interval of two or even six days may elapse; but after seven days' freedom it is almost certain that no further haemorrhage will take place.

The last sign of bleeding is always melaena, and its cessation, as judged by this sign, varies from three or four days to a fortnight from the commencement. Fresh melaena, as indicating the occurrence of haemorrhage, is coal-black, glistening, and viscid; or there is mixture with the fluid of a washout: this is black and quite likely to have small black clots floating in it. This must be distinguished from old melaena, because an enema may dislodge blackened and hard masses of faeces as long as a month after the onset of bleeding, the patient passing light-coloured soft motions at the same time. Food by the mouth is withheld till the bleeding has completely stopped for two or three days in most cases.

After the First Twelve Hours

In the meantime, after the first twelve hours cold water may occasionally be given to drink by the teaspoonful. If administered slowly in this way no harm is done, and it is gratifying to the patient whose mouth is dry and parched. The sucking of ice is not to be recommended. Fluid is introduced into the body per rectum, and half a pint of 5 per cent. glucose saline is run in every four hours by funnel, or the continuous-drip method is employed. This is supplemented by the subcutaneous injection of saline solution if the thirst remains acute. The rectum is to be washed out thoroughly once a day, and the mouth kept scrupulously clean at frequent intervals by some bland antiseptic solution, especially if the teeth and gums are not absolutely healthy. There is a diminished secretion of mucus from the buccal mucous membrane and of saliva from the salivary glands, due to depletion of the vascular system and also to lack of the stimulus of mastication. The mouth is dry, the tongue furs, and sordes collects on the lips. If the mouth is not kept scrupulously clean by the nurse the growth

of bacteria is encouraged and spreads up the parotid duct, the diminished flow of saliva favouring this; inflammation and suppuration of the parotid results, and the patient's life is thereby greatly endangered. Fortunately this formidable complication is rare.

Continued Vomiting

This state of affairs may be aggravated by vomiting, which, however, in my experience is rare, but hypersecretion is sometimes present and the flow of gastric juice is excited if blood remains in the stomach. The patient continually vomits intensely acid fluid containing blood in the form of "coffee-grounds." Such a case is to be treated by atropine, which not only arrests secretion but also dilates the pylorus. This drug is given by hypodermic injection as atropine sulphate, 1/100 to 1/50 grain, or by rectum as tinct. belladonnae, 20 to 30 minims; potassium bromide, 40 grains, may be combined with the belladonna and given by rectum if the vomiting is persistent. These drugs are repeated daily, or even twice daily, till a definite effect is produced. A close watch should be kept on the patient so that the atropine can be stopped if necessary. Small amounts of lime-water by mouth are also indicated.

The fever which most patients exhibit may be disregarded. It begins with a slight rise of temperature a few hours after the onset of bleeding or on the next day. It runs an irregular course, is not often over 100° F., and gradually reaches the normal a variable time after the bleeding has ceased.

Feeding by Mouth

In the general run of cases, when the bleeding has been finally arrested for two or three days, mouth-feeding is very carefully begun. Albumin water or whey is substituted for the water which has hitherto been allowed: these small quantities are gradually increased to 5 oz. every two hours. Equal parts of whey or albumin water and citrated milk (2 grains of sodium citrate to 1 oz. milk) are now substituted: citrated milk is then taken alone, and finally increased to 7 oz. every three hours. This stage would be normally reached in about ten days after the cessation of bleeding. In the meantime the rectal salines have been gradually reduced in number and at this stage are discontinued. An enema is given every other day in place of the daily washouts.

The dietetic treatment of ulcer, if the case is of such a nature, is to be continued from this point; otherwise, a more rapid advance in diet may be proceeded with. Wasting, the result of enforced absence of food, is an invariable accompaniment of this treatment, but no untoward result ever eventuates from it, and the normal weight is soon regained if a properly graduated diet is introduced. For the very rare complication of blindness and venous thrombosis there is no special treatment. Four methods of treatment remain to be considered.

Use of Haemostatics

Haemostatics, upon which the older physicians placed so much reliance, are probably of no use whatever. Three types of such remedies have been employed for many years. Haemostatic substances which precipitate the blood plasma (iron perchloride, for example) are given in the endeavour to block up the mouth of the artery; but it is difficult to see how any substance taken by the mouth could, owing to dilution, be of value; moreover, the clot formed by them is of a loose texture only. Adrenaline, which causes contraction of the blood vessels when applied locally, can only be of use if the stomach has been washed out previously. Attempts to increase the coagulability of the blood have been made by the

administration of calcium salts, and also by the subcutaneous or intravenous injection of haemostatic serum. Calcium is, however, useless, and there is no positive evidence that the latter method is of any more value.

Gastric Lavage

Lavage of the stomach has been practised on and off for over twenty years. Theoretically it is a sound idea, for blood retained in the stomach, partially digested and mixed with gastric juice, is inimical to the arrest of haemorrhage. Either hot or ice-cold water or astringent solutions have been employed. The blood is sucked out of the stomach by an evacuator, and a few ounces of water introduced and removed till the washings are clear. The astringent is then poured in. It is difficult to empty the stomach completely, and in order to do so the tube must be introduced into the lowest part of the stomach. The protecting clot is very likely to be dislodged, as the tube may come into direct contact with the ulcer, and at all events the mucous membrane is subjected to suction. This is not a method to be lightly undertaken.

Blood Transfusion

The mortality from haematemesis is small, and occasionally a patient who appears to be *in extremis* will recover, but, on the other hand, an apparently moderately severe case now and then proves fatal. There is thus always a degree of uncertainty at the onset, and blood transfusion should therefore always be an available method. It is a good plan to have the patient's blood grouped straight away in all cases. Much has been written about its usefulness as a means of treatment, and it is undoubtedly a valuable method, although it must be acknowledged that there is no definite pathognomonic indication for its employment. Haematemesis does not prove fatal after the initial attack, but after repetitions due to dislodgement of the clot, and it is after one or more repetitions that transfusion is to be done as decided by the physician.

As regards the danger of recurrence of haemorrhage following raised blood pressure due to the transfusion, practical experience has shown that this is not great, and two transfusions of 250 c.cm. each, with an interval of two hours between, is perhaps the best method of administration. There are three points of assistance in deciding whether it is advisable to transfuse, but they must be considered together. The first is the general clinical picture presented by the patient and assessed after review of the case in all its aspects. The other points are the character of the pulse and the percentage of haemoglobin in the blood. We do not know the normal blood pressure of our patient, so that the value of the readings during haemorrhage are uncertain; and after transfusion the pressure may fall and yet the patient recover. The rate of the pulse is perhaps of greater value, but sometimes it may not be much over 100 till just before death. A haemoglobin reading of 30 to 40 indicates danger, although the patient may appear to be quite comfortable.

Operation

There is a great deal of risk in operating; this is, of course, minimized by transfusion. If an acute peptic ulcer is thought to be present the case is better left alone, because there is no external indication of the presence of the ulcer, and the stomach must be opened to deal with the bleeding point. The search for this may be difficult and the ulcer often not found, in which case the patient is almost certain to die. On the other hand, a chronic ulcer is easily found, and such a case should be operated on if the recurring haemorrhage is persistent or if pyloric stenosis is present.