HAEMATEMESIS AND MELAENA*

BY

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Cases of massive gastro-duodenal bleeding treated at St. James Hospital, London, in the period of 1941-8 numbered 650. Peptic ulcer and gastritis accounted for 85% of these cases, as is shown in Table I.

TABLE I.—Final Diagnosis

Gastric ulcer	290
Duodenal ulcer	195
Anastomotic ulcer	29
Oesophageal ulcer	2
Gastritis	40
Carcinoma of the stomach	24
Portal hypertension	22
Hiatal hernia	3
Simple tumour of the stomach	4
Gastric diverticulum	1
Aneurysm of the aorta	1
Pancreatitis	1
Uncertain, duodenal diverticulum, etc.	38
Total	650

Although oesophageal varicosities are a typical feature of portal hypertension, it is not so well known that varicosities may occur in the body of the stomach, and they were observed gastroscopically in one of these 22 cases. There is great difficulty in arresting the haemorrhage in this disease, and I recommend the use of an inflatable bag in the lower oesophagus which can, on distension, obstruct the collateral blood flow from the coronary veins and so reduce the pressure in the oesophageal veins to normal or less. (See Fig. 1.) A modified Miller Abbott

tube is useful for this purpose and need not press on the bleeding area.

Severe bleeding from carcinoma of the stomach is not necessarily a sign of inoperability, for of 24 such cases with severe bleeding 13 were eventually treated by gastric resection and left the hospital well, though 4 required a total gastrectomy.

Gastroscopy is of value in the diagnosis of some cases of hiatus hernia; the gastroscope may first enter the supra-diaphragmatic part of the stomach and then the sub-diaphragmatic compartment. Above the diaphragm a violent heaving pulsation is seen, due to the immediate proximity of

FIG. 1.—The bag inflated in the lower oesophagus, obstructing hypertensive portal flow, with aspiration or feeding tube in the stomach.

the heart, with an opening below, which varies in size with respiration, through the oesophageal hiatus in the diaphragm. If the gastroscope is passed through this opening the normal quiet appearance of the body of the stomach is seen.

Gastritis, particularly an atrophic gastritis associated with achlorhydria, may be the only positive finding in many cases of gastro-duodenal bleeding, as in 40 cases in this series. Why is the atrophic stomach prone to bleed? Occasionally a small subacute gastric ulcer is found, but in the majority of cases there is no visible ulcer by the time the patient is examined gastroscopically. In two cases minute erosions were seen directly overlying the submucosal vessels which appear so prominent in atrophic cases. I believe that in these cases minor erosions which might heal without incident in normal mucosa penetrate one or more of the submucosal vessels and cause a haemorrhage. The value of gastroscopy in this series was amply demonstrated.

*Abridged version of the first Simpson-Smith Memorial Lecture, delivered at the West London Hospital Medical School on June 10, 1948.

Peptic Ulcer and Gastritis

In England a policy of selective surgical intervention has been followed in this group, cases thought likely to fare badly under medical management being treated surgically. This policy has certain difficulties. If one waits for repeated bleeding, or waits to be certain that the bleeding is of a lethal type, then several days may have passed and the patient may be in poor condition for surgery. An alternative method is to operate on all cases of bleeding in patients who are known to have peptic ulceration, and to operate at once, as recommended by Finsterer, on all patients who have a second haemorrhage even if they have no history of peptic ulceration.

How can we discover the advantages or otherwise of surgery? Comparison of the results of different workers is practically valueless. The ages of different groups of cases recorded vary widely; in this series 38% of the patients were aged over 60, compared with the more usual proportion of 2 to 20%, and two-thirds of the deaths occurred in this group. Long lists of cases of gastro-duodenal bleeding treated surgically with few or no deaths are of little value; such figures may be readily obtained if only good risk cases are accepted. I therefore adopted a different approach. With the co-operation of the medical staff at St. James Hospital all the cases of haematemesis and melaena were admitted to my wards. A routine method of treatment was decided upon and printed on charts displayed in these wards. The intention was to remove as many variables as possible and then vary one factor only, the factor of surgical intervention, to discover its effect on mortality. It was of course impossible to exclude some variables. The introduction of the sulphonamides and penicillin had some effect, and the depletion of staff during the war also affected the results. Bombing had a bad effect on surgical mortality, and the incidence of bleeding rose during the "fly bomb" period. The total mortality figures were as follows:

Whole Series.—650 cases; 85 deaths; mortality 13.0% (number over age 60 is 249=38%).

Peptic Ulcer and Gastritis Group.—586 cases; 62 deaths; mortality 10.5% (number over age 60 is 224=38%).

During the first phase of this period, 1941-3, operation was avoided so far as possible, and the cases operated on were the persistently bleeding survivors. In the next period, for six months of 1944, early or more frequent operations were undertaken and gastrectomy was almost invariably performed. This period was terminated by the advent of the flying bombs, which made surgery inadvisable and difficult. The mortality rose during this period. Following this, operation was a little less readily undertaken, and, instead of making it a rule to perform a gastrectomy, the simplest and safest method of controlling the bleeding was used. This brought down the mortality to a lower level.

In 1948 things were sufficiently stable to try the effect of early surgery in a much higher proportion of cases, and so from Jan. 1, 1948, the dictates of Finsterer were followed. This increased the operation rate in the first four months of the year to 41%, and during that time there was no death, despite the advanced age of many of the patients. Table II clarifies these points.

TABLE II.—Peptic Ulcer and Gastritis

	No. of Cases	Over 60 Years	Operated on	Mortality	Average Age of Patients who Died
Period 1, 1941-3. Operation avoided if possible	193	33%	5%	10%	62
Period 2, Dec., 1943-June, 1944. Operation earlier, always gastrectomy	60	33%	15%	20%	62
Period 3, June, 1944-Dec., 1945. Simplest operation to stop bleeding, early	175	39%	11%	7%	66
1946	66	36%	8%	11%	61
1947	71	32%	15%	15%	67
Period 4, 1948. "Finsterer"	22	45%	41%	0%	—

This fourth group is too small to be significant, but will be extended. Up to Oct. 14, 1948, 60 cases had been admitted, 35 (58%) being treated by emergency operation. Of the 60 patients, two (3.3%) have died, but one of these was bleeding too severely to move to the operating theatre and the second was a bed-ridden man aged 67 who had been bleeding on and off for three months. It must be acknowledged that the series is a fortunate one.

All the operations were performed under local analgesia, most of them by myself, but several by two assistants after they had spent two years in assisting at operations on considerable numbers of gastro-duodenal cases. So far as the precise surgical procedure is concerned, I considered it unwise to start the operation with a fixed determination to perform a gastrectomy, although that is undoubtedly the most certain way of stopping bleeding. In most bleeding gastric ulcers a gastrectomy is the easiest treatment. In extensive deeply penetrating ulcers in feeble persons I was often content to separate the ulcer edge from liver and pancreas and then firmly suture up the resulting opening in the stomach, taking care to include the whole crater edge in the sutures. A secondary gastrectomy has occasionally been necessary later. This procedure has undoubtedly saved some very fragile patients from death. In cases of duodenal ulcer the anterior wall of the duodenum is opened, the ulcer edges firmly approximated with deep silk sutures, and the duodenum repaired; this obstructs it, and so a gastro-jejunostomy is necessary. Although one patient bled again some days after this operation, it has given good results on the whole and has saved lives.

Finally, I believe that where there are good facilities and surgeons interested in this subject the freer use of surgery in the arrest of gastro-duodenal bleeding may give better results than those hitherto obtained. The method of deciding on a definite policy and observing the effects on the mortality of varying this policy may lead to further enlightenment.

Preparations and Appliances

ANAESTHETIC APPARATUS FOR INFANTS

Dr. D. F. REES, of Twickenham, writes: Below is described a simple method of anaesthetic administration evolved for that very awkward patient the tiny baby—i.e., from birth to the early months of life. It is based on Ayre's open T-piece method without the need for intubation. The apparatus consists of the inlet junction and mask mounting of a Waters assembly with a length of elephant tubing (6 in.—15 cm.—has proved satisfactory) fitted on to the absorber mounting. The valve is screwed shut and the feed-tube is connected to a normal Boyle machine.

In major abdominal operations—e.g., for pyloric stenosis, exomphalos, torsion of gut, and intussusception—it provides ideal conditions, with quiet respiration and adequate relaxation and oxygenation. It has the advantage over cyclopropane that an air-tight fit of the mask is unnecessary and that the administration can be performed by the relatively unskilled. Finally, the lightness of the apparatus renders the fatigue of administration minimal. In minor surgery, such as circumcisions and talipes manipulations, it is equally effective, and dispenses with the cumbrous “rag-and-bottle” method and the nuisance of preparing several Schimmelbusch masks in the event of a long list. To obviate risk of explosion when cauterizing naevi and warts a non-inflammable mixture can be administered at will.

As a guide, 2 litres of oxygen and 4 litres of nitrous oxide, with the ether tap of the standard Boyle fully open, slide up, and ether to the 6-oz. (170-ml.) mark, quickly provide adequate anaesthesia for abdominal work. The large volume of gas-flow plus the non-gastight fit of the mask ensures against CO₂ build-up under the latter. A diagram is included more to emphasize the simplicity of the apparatus than to clarify the above description.

Correspondence

Infective Ear Disease

SIR,—Your leading article on infective ear disease (Dec. 18, 1948, p. 1068) reviews the problem and discusses Mr. Colin M. Johnston's paper (p. 1049) on the same subject. It states that “it seems certain that regular daily treatment is the best method of clearing up infected ears.” Is this true of suppurative otitis media? Before factory managements are persuaded to set aside facilities, including valuable nursing personnel, and workers are persuaded to spend their working time in making daily visits to factory clinics, the evidence must be considered. Daily treatment must inevitably consist, as Mr. Johnston points out, in a nurse or orderly syringing the ear or cleansing the ear by dry mopping and instilling drops. I know of no method more calculated to perpetuate infection: the easiest way to set up middle-ear discharge in a case with dry perforation is to syringe the ear; does not a suppurating ear so treated become dry despite rather than because of such treatment?

Mr. Johnston's paper is an abridged version of his full report to the M.R.C., and comments are to be related to the abridged rather than the full report. Are his criteria of cure adequate, bearing in mind the fact that of 37 cases of “immediate cure” examined by him 6–18 months after cessation of treatment 46% were found to have relapsed—a result not surprising in the condition, itself liable to intermittent activity? Moreover, the average duration of treatment was 5.2 weeks, and it seems likely that the average number of treatment attendances was 25–30. Of 274 cases some two-thirds would be the simple type of otitis, tubal infection, or tympanic sepsis, for only 90 showed granulations or polypi and six cholesteatoma. Moreover, of the polyp cases a number would arise from the tympanic annulus, with excellent prognosis. That “immediate cure” resulted in 80% of cases treated to conclusion is therefore not surprising, but I submit that a result as good could have been obtained with far less treatment.

In such cases treatment by an otologist perhaps once, perhaps repeated at weekly intervals three or four times, will yield equal results. The essentials are very careful toilet of the meatus and application of 20% silver nitrate, which is far preferable to chromic acid or trichloroacetic acid; it is an effective caustic and need not be confined to the precise area of the middle ear, being harmless in the external ear and indeed helpful if, as frequently occurs, otitis externa accompanies the otitis media. The application of silver is immediately followed by free insufflation, not light dusting but largely filling the meatus with pulv. P.S.U. (sulphathiazole 10 parts, urea 1 part, penicillin 2,000 units per gramme). Such treatment is only with extreme rarity followed by skin reactions.

In cases of tubal infection (antero-inferior perforation, discharge of mucous type, notably influenced by occurrence of coryza) infection in the nose, sinuses, or nasopharynx requires treatment, but deviation of the nasal septum and tonsillar or dental infection are rarely significant in the otitis.

More important, though less numerically, than these “nuisance cases” of otitis media are those with cholesteatoma or osteitis extending beyond the tympanic annulus, and I hope that Mr. Johnston will be able to amplify the information he has given, to record the number of cases showing attic perforations and granulations persisting despite treatment and correlate the results of treatment with these findings. It would seem that he takes too tolerant a view: to regard cases showing persistent pus in the middle ear not extruding through the perforation as “quiescent” is to misunderstand the whole pathology of the middle ear cleft. In days past radical operations were done in cases of persistent middle-ear suppuration of the tympanic sepsis and tubal type: that is history, and best forgotten. But the otologist who takes too lightly his cases of cholesteatoma, or deep osteitis, or granulations of antral origin incurs much responsibility: indefinite supervision will be required, and sooner or later operation will be advised—or the patient will fail to continue attendance, for which the otologist must blame not the patient but his own dilatory decision. In these cases, correctly diagnosed as such (a small proportion only of the total), there is expectation only of continued discharge, progressive increase of deafness, and possible sudden complication of the most serious nature.