A Clinical Lecture

ON

IDIOPATHIC DILATATION OF THE OESOPHAGUS,

Delivered at the Bristol Royal Infirmary,

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IDIOPATHIC dilatation of the oesophagus—by which I mean a dilatation which exists without any obvious mechanical obstruction—is a rare condition, but its recognition as one of the causes of dysphagia is a matter of importance.

The cause of this spindle-shaped dilatation of the oesophagus is not generally known, but in a few cases—as in the example below—the occurrence of an injury appears to be a definite etiological factor.

Apart from the small traction diverticula which exist in the lower part of the oesophagus, and which are of pathological interest only, it is now generally recognised that large-sized diverticula can occur in this part of the oesophagus similar to those with which we are more familiar in the upper third of the oesophagus.

Fig. 1.

It is from such diverticula that idiopathic dilatation of the oesophagus must be differentiated.

Of the various means of diagnosis one of the most valuable is that suggested by Rumpel: A tube with numerous perforations in its lower third is passed down the oesophagus into the stomach, and another tube with a single perforation near the end is passed into the oesophagus above the cardia, resting in the pouch or dilatation. If a measured quantity of water be now poured into the oesophageal tube by means of a funnel it will flow through the perforated tube into the stomach if a dilatation exists, so that the fluid can be recovered from the stomach, but not from the dilatation (Fig. 1). On the other hand, if a diverticulum exists this will be filled first by the water and only the overflow will enter the stomach, so that part of the fluid can be recovered from the stomach and part of it from the diverticulum. (Fig. 2). The latter quantity can be measured and will give us some idea of the capacity of the pouch.

Another test is furnished by the "coffee experiment," suggested by Max Einhorn, which resembles a method of using

two differently coloured fluids previously described by Mermod. The "coffee experiment" is carried out as follows: The patient drinks a cupful of black coffee one hour before the examination, and is instructed to try and force the coffee down by taking deep inspirations and compressing his thorax, thus mechanically forcing the fluid from the oesophagus into the stomach. An hour later the patient drinks a glassful of water. The tube is now inserted into the oesophagus, the water appears quite clear, and is regained in almost the same amount as taken by the patient. Thereupon the tube is pushed in a little further into the stomach, and now some coffee will appear without the admixture of the water. This experiment shows that the water has remained above the stomach in the dilated oesophagus, not mixing with the coffee. Apart from the different colour in these two fluids it is evident that the water obtained from the oesophagus will show a neutral reaction, while the coffee gained from the stomach will show the characteristics of gastric juice, presence of hydrochloric acids and ferments.

The Roentgen rays, gastrodiaphany, and oesophagoscopy have all been used as means of diagnosis. The administration of bismuth subnitrate may help to render the broadening of the oesophagus more evident when using the x rays; and in the case below a bullet-shaped piece of metal when swallowed was found to occupy different positions—on either side of the spinal column—at different times.

Fig. 2.

The symptoms of this distressing malady are sufficiently indicated by the following case:—

C. E. F., aged 26, complained of difficulty in swallowing and a sensation of choking followed by vomiting especially at night.

History.—She was always strong and healthy until Christmas, 1897, when she fell downstairs and remained unconscious for about two hours. The right kidney was found to be loosened, and she was confined to bed for about five weeks. Towards the end of this period she complained of difficulty in swallowing and had pains in the chest which were attributed to dyspepsia. On taking a meal she frequently got pain in the centre of the chest which was relieved by vomiting. In addition to these attacks she would wake up suddenly in the night with cough and choking sensations of a distressing character and culminating in vomiting undigested food mixed with frothy matter.

After about nine months she began to feed herself with a stomach tube, and this she continued to use for a considerable period. Attacks of pain and vomiting continued in association with the dysphagia and choking sensation, but were somewhat relieved by washing out the oesophagus. An oesophageal tube was found to pass easily into the stomach. After washing out the stomach through the tube and then withdrawing the tube about 8 or 10 inches undigested food could be washed out of the oesophagus. The washings from the stomach were acid, those from the oesophagus were neutral. No difficulty was experienced at any time in passing the tube into the stomach—8 to 20 inches from the teeth. Skiagraphs of the chest after the patient had swallowed a bullet-shaped metal body showed that the latter lodged about the level of the sixth

dorsal vertebra, sometimes on the right and sometimes on the left of the spinal column. Repeated experiments with two tubes—one in the stomach (perforated) and one in the œsophagus—as described above, showed that the fluid wholly escaped from the œsophagus into the stomach, and this was corroborated by the “coffee experiment.” The capacity of the dilated œsophagus appeared to be about half a pint. No swallowing sound could be heard at the end of the sternum or in a corresponding position over the spinal column. The temperature was generally slightly elevated (99° to 100° F.).

The diagnosis of œsophageal dilatation was formed on the following grounds: (1) The ease with which the tube could be passed into the stomach; (2) that in order to empty the second “cavity” it was merely necessary to withdraw the tube some inches from the stomach; (3) the positive result obtained by the “two tube test” and “coffee experiment”; (4) the absence of the swallowing sound.

The only other conditions which could give rise to difficulty in the diagnosis would be malignant disease and diverticulum of the œsophagus. Malignant disease could easily be excluded by the duration of the case and the absence of stricture, for a malignant growth which has not caused definite stenosis never gives rise to dilatation of the œsophagus. Diverticulum of the œsophagus could also be excluded by the various tests which have already been mentioned, by the ease with which a tube could invariably be passed into the stomach, by the absence of the swallowing sound, and by the fact that the œsophagus could be emptied by merely withdrawing the tube some distance from the stomach without pushing it on again into a definite pouch.

The treatment has not proved very satisfactory. Feeding with the stomach tube has failed after repeated trials before the patient came under observation. Electricity (one rheophore being placed in the œsophagus) and tonics—with a view to overcoming the atony of the muscular tissue—have given no relief. A comparative degree of comfort only has been obtained by the ingestion of soft foods and the systematic lavage of the dilated œsophagus.

The question of gastrostomy has been considered but has not been thought desirable so long as the patient is keeping up her nutrition.

SUCCESSFUL OPERATION FOR PERFORATED INTESTINAL ULCERATION IN TYPHOID FEVER.

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WHEN the number of deaths which occur annually as the result of perforation of intestinal ulceration in connection with typhoid fever is taken into consideration, and the absolutely hopeless result of medical treatment in such cases, any method whereby this fearful mortality, amounting to from 90 to 95 per cent. (Murchison), can be lessened must be received with gratitude by the profession. From the results already obtained by surgical treatment of those cases many valuable lives have been saved, and I believe we are justified in considering that another has been added to the many recognised abdominal operations.

On September 6th, 1900, I was requested by my colleague, Dr. Wallace Beatty, to see a married lady, aged 34 years, who had been under his care for typhoid fever, which had run its course without any special characteristic, the temperature falling to normal on September 2nd, when she was considered convalescent.

On the morning of September 6th there was nothing to indicate the imminence of any complication, but about noon she was seized by sudden severe pain in the abdomen, followed by rigors and evidence of collapse, her pulse rapidly rising to 160 and her temperature to 104° . The abdomen became somewhat distended, but was soft and not increased in tension; a tympanitic percussion note was obtained over the hepatic area.

Perforation was diagnosed, and at 4.30 P.M., assisted by Mr. Gordon, I made a median incision between the umbilicus and pubes. On opening the peritoneal cavity a quantity of dark brown-coloured fluid, evidently due to extravasation of the intestinal contents, exuded, and as the intestines were raised from the pelvis, this region was found to be filled with a similar fluid, in which the intestines floated. The small intestine was now examined from its termination at the cæcum, when it was seen to be very congested and vascular. As the ileum was traced upwards it was found covered by lymph, about 8 inches above the cæcum, on the removal of which a pin-hole opening was discovered, from which the intestinal contents were oozing. This was marked, and as the amount of extravasation appeared very large to come from so small an opening, within the five hours which had elapsed since the symptoms pointing to perforation had occurred, the rest of the ileum was rapidly examined,

when, although another portion of the intestine, about a foot above this, was also covered by lymph, and presented evidence of a large ulcer, no perforation could be found, and as above this the congestion and vascularisation of the intestine gradually ceased until it presented a normal appearance, it became evident no other perforation existed.

The seat of perforation was then dealt with, a continuous silk suture passing through all the coats of the intestine, except the mucous, being applied and the edges of the perforation and ulcer inverted. Over this sufficient Halsted sutures of catgut were applied to enclose the thickened area corresponding to the ulcer, thus including it within the inverted portion of the intestine. The peritoneal cavity was then thoroughly flushed out by normal saline solution to remove the extravasated intestinal contents, when the abdominal wound was closed, no drainage being employed.

During the night after the operation, the temperature fell from 104.2° F. to 98° F., and the pulse from 160 to 118. The following day the temperature gradually rose to 101.4° F. and the pulse to 142, and towards the evening a movement of the bowels occurred, after which the temperature gradually fell, becoming normal on the following evening, when the pulse had also fallen to 82. The subsequent history of the case was uneventful, no complication arising. When I recently heard of the patient six months after the operation, she was in perfect health.

Hare in his work on *Complications of Typhoid Fever*, published in 1899, records 103 cases in which operation had been undertaken for perforation in typhoid fever; of those 21 recovered, giving a percentage of 20.38, which must be considered favourable, when compared with the pre-existing rate of mortality, as, although we cannot look on this as a true record, many unsuccessful cases, I am certain, not having been published, still, we must place on the other side the fact that many of the earlier cases operated on were such as would not have been operated on had the circumstances under which successful result was to be expected been as well understood as it is now.

It has been shown that a most important factor in the result to be obtained in this variety of perforation, as in every other, is that of the time which has elapsed between the perforation and the operation. Of the cases operated on after an interval of twenty-four hours had elapsed from the perforation practically all were unsuccessful (one recovered twenty-six hours after and two between the second and third day), while of the cases operated on within twelve hours a percentage of 26.7 recoveries were obtained; and of those operated on between twelve and twenty-four hours 30 per cent. of recoveries resulted.

In the United Kingdom this operation does not appear to have obtained the recognition it deserves, as I have only been able to find about 20 cases recorded, with, however, the satisfactory result of four recoveries, and believe it is only necessary that physicians should be aware of the success to be expected to submit their cases more frequently to operation, when I confidently look to 50 per cent. of the cases being successful.

TWO CASES OF POST-OPERATIVE THROMBOSIS OF THE MESENTERIC VESSELS FOLLOWED BY DEATH.

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As a sequel to operation, thrombosis of some venous trunk more or less remote from the sphere of treatment is not uncommon; and is perhaps more frequently met with in the external iliac or common femoral than in any other. I do not recall having previously encountered in my own experience a case where, after operation, the mesenteric vessels became thrombosed. Yet strangely enough, in that peculiarly inexplicable order of things, not unfamiliar in the practice of most men, where rare and interesting cases sometimes come in runs, it was my lot to see two deaths from this particular complication within four days of each other.

In the first case a fatal result ensued four days after the performance of gastro-jejunostomy for pyloric obstruction; and in the other, three days after removal of the left half of the thyroid gland for exophthalmic goitre. Both cases presented striking features of similarity; so much so that in the second case, Dr. John Duncan, my resident infirmary assistant, who was cognisant of the facts associated with the first, rightly interpreted the symptoms connected with the second. Aside, therefore, from the pathological interest attached to the direct causes of death it seemed to me that