A CASE OF

HYDROCHLORIC ACID POISONING, FATAL
ON THE NINETY-FOURTH DAY.

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FOR permission to publish the following case I am indebted to Dr. J. Mitchell Bruce.

F. M.—, railway inspector, aged thirty-seven, was brought to the Charing-cross Hospital at 11.15 A.M. on Saturday, Jan. 12th, 1889, with the following history. Having a cough he had attended at a dispensary, and had received medicine in an ordinary wine-bottle. This he accidentally left at his station. Next day the bottle was missing; but the day following a bottle was handed to him as being the lost one. This he took home, and next morning asked his wife to give him a dose of his medicine. She poured him out one, which he threw into his mouth with the intention of swallowing it quickly. He was immediately conscious from the peculiar taste and sensation that something was wrong, and rushed from the room spitting out what he had not already swallowed. He experienced burning pain in the mouth and throat, reaching down the gullet to the epigastrium. A medical man was sent for, who administered "something," and sent him at once to the hospital, where he arrived at 11.15 A.M. On the way he commenced retching and vomiting. When seen he was sitting down, with a pale, anxious face, pulse large and rapid, and hurried respiration. He had considerable thoracic and abdominal pain, and spoke in a very rapid and excited manner. He was continually straining and vomiting, bringing up small quantities of yellowish material, now for the first time mixed with blood, which was bright. The vomited matters were acid, but not strongly so. The tongue was yellowish; no staining of chin or cheeks; yellowish staining of the soft palate, arch of fauces, and back of pharynx; no loosening of teeth. He was given small quantities of solution of carbonate of sodium (one drachm to four ounces), which he swallowed readily and without pain. On getting him to bed the temperature was found below 96°. He was covered with a warmed blanket and hot bottles were applied to the feet. With the exception of further small quantities of soda solution, and a little milk and white of egg (which he took for about two hours at intervals of fifteen minutes), nothing was now administered by the mouth, nutrient enemata (peptonised) being ordered every four hours.—7.30 P.M.: Patient has some pain in the abdomen; increased if he lies on the right side. Pulse 96, stronger and quieter; respiration 20. Since admission he has vomited five times. The first three vomits obviously contained much altered blood. The last two were very dark, alkaline, greenish-yellow in thin layers, containing bile as shown by Gmelin's test. The microscope revealed many altered blood-corpuscles, and much unrecognisable debris. The bowels have acted five times; the first stool was free and natural, the next three motions fluid and very dark, containing altered blood. The last was less fluid and not at all dark coloured. Urine high coloured, clear, acid, sp. gr. 1028, and containing a decided trace of albumen.—Jan. 13th, 1.30 A.M.: Patient sleeping quietly, no further sickness. 10.30 A.M.: Very fairly comfortable. Sick once; vomited matters as before; sediment shows fewer blood-corpuscles. Is very thirsty. Allowed small pieces of ice to suck; otherwise nothing by the mouth. Pulse 80; respiration 18.—14th: Very little pain now, and can lie on back or right side comfortably. All nutrient enemata well retained. Rather hungry; very thirsty. No further vomiting or action of bowels. Pulse 93; respiration 24. Sleeps much during the day.—15th: No pain; albuminuria disappeared.—19th: Patient pleaded hard for something in the way of food, being very hungry, but nothing was allowed.—20th: At 4 A.M. patient felt sick, and immediately afterwards brought up fourteen ounces of bright blood, which was alkaline and clotted. No pain preceded or followed the vomiting. Forty-five minutes later he brought up twenty ounces of rather darker blood, with a few shreddy particles in it. Temperature 98.4°; pulse 132, small and soft. Ordered four grains of acetate of lead in water at once, and gallic acid and opium mixture every four hours. 10.30 A.M.: Patient says he

"feels all the better for it." Pulse 92, soft, but larger than before. Bowels open once since; no blood. 12.30 P.M.: Patient began to feel uneasiness in rectum. Enemata not so well retained. Fifteen minims of the tincture of opium added to each enema.—21st: No pain, no nausea. Enemata retained.—22nd, 11.20 A.M.: Hæmatemesis recurred, the patient bringing up eight ounces of rather dark blood. Pulse 148, very soft and compressible. Had been sleeping previously, and quite quiet. Ordered thirty grains of tannic acid and three grains of acetate of lead in mucilage and water every four hours.—24th: Acetate of lead cut off. Pulse 98. All enemata retained.—27th: Complaints of dryness of mouth. Tongue dry, brown, and hard (tanned). All medicine cut off.—31st: Has had no symptoms whatever for seven days.—Feb. 1st: From this date gradual administration of food by the mouth was commenced by giving one drachm of peptonised milk every half hour. No pain; no nausea.—2nd: Three drachms of peptonised milk every half hour.—3rd: Unpeptonised milk substituted.—4th: Half an ounce of milk every half hour. Small slice of thin bread-and-butter at meal times. Nutrient enemata reduced to four times daily.—5th: Takes one pint and a half of milk during the day. Bread-and-butter and milk pudding. Enemata three times daily.—6th: Enemata discontinued. Milk two pints, beef-tea one pint, bread-and-butter, milk pudding.—8th: Fish and one egg added.—13th. Full diet substituted. After being five days on full diet without any symptoms, abdominal or otherwise, and being apparently cured of all trouble, the patient left the hospital in the best of health and spirits. To use his own words, he "felt as well as he did before taking the acid." Some few days afterwards I saw him when he came to the hospital to visit a friend, when he said that he was quite well, but that his wife said he ate too much.

On March 15th the patient was seen by Dr. Bruce, in consultation with his medical adviser. He had recently been vomiting daily, bringing up large quantities of a fluid matter depositing a dark sediment, without any accompanying pain. Physical examination of the abdomen showed that in dorsal recumbency there was visible and palpable prominence in the epigastric, umbilical, and corresponding lateral regions, reaching down to the umbilicus in the middle line, and just below its level on the right. This area was resonant, and over it vermicular movements were plainly visible. Succussion elicited distinct splashing. In the erect posture the resonant area almost entirely disappeared.

He re-entered the hospital on April 1st. (For the notes from this point onwards I am indebted to our clinical clerk, Mr. G. F. Dickinson.) The vomiting had increased both in frequency and in the duration of the attacks, on one occasion lasting almost continuously for sixteen hours. The attacks bore no relation to the taking of food, and the fluid brought up was often no thicker than water. He was now in an extremely emaciated condition and very weak. He preferred lying on the left side or on the back with his legs drawn up, but did not complain of pain or uneasiness in the abdomen. There was complete anorexia, and the bowels were confined. The outline of the much-distended stomach was distinctly seen through the abdominal walls. The lesser curvature extended from the xiphoid cartilage to near the tip of the eleventh right rib, concavity upwards; the greater curvature, less marked, passed from the tenth left costal cartilage downwards and to the right, crossing the mid-line at a point nearer the pubes than the umbilicus and terminating in the pylorus, about two inches to the left of the right anterior superior iliac spine. Within these limits the bagpipe-shaped tumour pushed forwards the walls. Rhythmical movements could be easily seen and felt. A microscopical examination of the vomit showed undigested fat and muscle fibres, but no sarcinæ.—April 4th: Has been since admission on nutrient enemata. There has been no vomiting. The stomach has been regularly washed out with dilute boracic solution. The abdominal walls are retracted, and no outline of the stomach can now be seen. As the emaciation rapidly progressed, and the pylorus was manifestly the seat of cicatricial stricture, it was determined to dilate it. Accordingly, on April 10th, Mr. Astley Bloxam operated. An incision two inches long was made parallel to the margin of the ribs on the left side, the gastric wall carefully stitched to the margin of the wound, and the stomach opened. The attempt to find the pylorus unfortunately failed, and the

patient gradually sank, and died on April 15th, five days after the operation.

Post-mortem examination showed general contraction of the stomach. The mucous membrane near the pylorus presented several cicatrices, and the pylorus and adjacent gastric wall were so thickened and firmly contracted, and the opening so constricted, as only to allow the passage of the knob of a large probe. All the other structures were healthy.

Remarks.—The amount of acid administered as the dose was rather more than one ounce, and the acid was strong hydrochloric, fuming in the air; part was swallowed, and part rejected. The mouth, fauces, and œsophagus entirely escaped harm, while the pyloric region of the stomach suffered. Seeing that the stomach was probably empty at the time of taking the corrosive (the patient having taken no breakfast), the fact that the pylorus was the only part injured might be taken as confirmatory evidence of Dr. Lesshaft's views as to the almost vertical position of the fasting organ. A point of the greatest interest was the apparent separation of the sloughs from the eighth to the tenth day, as evidenced by the alarming hæmorrhage. Had any food been allowed by the mouth, the bleeding would certainly have been ascribed to it. This case, then, proves the absolute necessity of withholding food by the mouth until this period is safely passed, however urgent the craving and however quiet the symptoms. The complete healing of the ulcerated surfaces was accomplished by about the twentieth to the twenty-fifth day—i.e., ten to fifteen days after the separation of the sloughs. This might serve as an indication of the shortest time during which it is of use to keep a case of active gastric ulcer on rectal alimentation; though it is no guide to the further length of time required, as it is reasonable to suppose that the mucous membrane in gastric ulcer, being in a less healthy condition, would require a longer period for processes of repair to be accomplished. The unfortunate situation of the chief lesions around the pyloric orifice led to the second train of symptoms; and it is to be regretted that at the time of the operation it was found impossible to reach the orifice owing to its extreme stenosis, as dilatation of the stricture, excision of the pylorus, or the establishment of a gastro-duodenal fistula would apparently, if successful, have effected a cure. There is another point worthy of notice in the history—viz., that on first admission the patient had increased pain on lying on the right side, where later experience showed the lesions to have been. Even when he was an in-patient for the second time a similar note was made.

NEW AURAL PROBE.

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SENIOR SURGEON TO THE ROYAL PORTSMOUTH HOSPITAL AND THE PORTSMOUTH AND SOUTH HANTS EYE AND EAR INFIRMARY.

THIS little instrument is four inches in length, with a probe and sliding collar at one end and a forceps at the other. It will serve for several purposes in aural surgery, and can be very conveniently used both by patient and practitioner. It makes an excellent cotton holder for cleaning the meatus in chronic otorrhœa, and from its point the soiled material can be instantly cast off. It is especially adapted for the application and removal of the new antiseptic artificial membrane, which was described in THE LANCET of Sept. 14th and 28th, 1889. The aural probe is represented in Fig. 1 as a cotton holder, with a piece of wool twisted over the point. In cases of chronic suppurative disease of the middle ear, the patient must be taught to thoroughly deodorise and cleanse the meatus, and this treatment has sometimes to be repeated several times a day. The secretion should be washed out by gentle irrigation with some lukewarm antiseptic lotion. It is a good plan to deodorise the ear by repeatedly filling the passage with a warm solution by means of a large glass dropper, whenever the injured organ is too sensitive for treatment by injection. As soon as the cleansing process is complete the meatus should be gently wiped dry, and for this purpose a thin strip of wool, three inches and a half in length and half an inch in breadth, must be tightly twisted over the end of the probe. The method of instantly casting off the soiled

material by sharply pushing with the thumb the sliding collar over the point is depicted in Fig 2. I recommend my patients to use an aromatic wool for drying and cleaning the meatus. It possesses a very agreeable odour which renders it extremely pleasant to many labouring under offensive discharge. The wool is prepared by saturating it in a strong

FIG. 1.—PROBE CHARGED WITH COTTON WOOL FOR CLEANING AND DRYING THE EAR.

antiseptic solution, and then charging it with the volatile products obtained from the pumiline pine. The aural probe has been designed for the application of the new antiseptic artificial tympanic membrane. The patient must be taught to introduce the artificial drumhead himself, and he will soon learn to perform the operation with great dexterity. The little hat should be placed on the blunt end of the probe,

FIG. 2.—CASTING OFF THE SOILED MATERIAL.

with the handle in a line with the knob on the slide. Fig. 3 exhibits my method of holding the instrument. It must be grasped like a pen, with the middle finger resting just behind the knob, which serves as a guide for the position of the handle. The artificial membrane is then slipped off the probe by pushing up the slide; and in this