Practical Points of Diagnosis and Treatment in Surgery and the Specialities.

A CASE OF OESOPHAGEAL DIVERTICULUM OF THE "PRESSURE" TYPE. OPERATIONS. CURE.

BY W. IBBOTSON, F.R.C.S.

FEMALE, aged 38, married. First seen by me in May, 1931.

Sensations of choking in the left side of the throat, so that she cannot swallow

History. solids without inducing fits of retching, with "no end of phlegm," followed by vomiting of undigested food. These attacks often occur during meals, and sometimes even when swallowing water. There is an aching pain in the throat, with attacks of huskiness, but no complete aphonia, no hæmorrhage, no cough. For the last five to six months, becoming more and more pronounced. General health is impaired, she has never been "frightfully strong," sleeps very badly, bowels and menses regular, weight decreasing. Diphtheria at the age of 13 years, quinsies when at school. Severe attack of pertussis within the last few years. Has undergone three uterine operations. Has borne five children, three alive and well, one dying from peritonitis at the age of 8 months and the other stillborn. She has also had one miscarriage at five months. Family history—nil gross.

Nose, nasopharynx, larynx, ears, nasal sinuses, all healthy. Mouth showed pyorrhœa and definitely infected tonsils. Face toxic. Weight 132 lb. October 20, 1931, was 9 st. 7 lb. Neck—a soft, smooth, painless swelling could be made out in the left carotid triangle, extending from the level of the lower border of the cricoid cartilage to the root of the neck, pressure on which initiated a gurgling sound and the coughing up of phlegm.

Radiography. Radiography confirmed the presence of an œsophageal diverticulum arising just below the upper end of the gullet and lying to the left side (See radiograms.)

Treatment. (1) Dental.
(2) Operation No. 1, on October 21, 1931: (a) Œsophagoscopy, during which the opening into the pouch was well seen, being placed immediately posterior to the œsophageal lumen, and indeed it was difficult to avoid the passage of the œsophagoscope into the diverticulum; (b) tonsillectomy.

(3) Operation No. 2, on November 2, 1931: Removal of diverticulum; Stage 1, viz. dissection and fixation of the sac. For many days prior to this the patient kept the pouch clean by frequently washing it out with whisky. The procedure was as follows: an incision was made along the medial border of the left sterno-mastoid muscle extending from the middle of the thyroid cartilage to the root of the neck.

The infrahyoid muscles were then defined and retracted medially. Exposure of the carotid sheath was the next step and, as the internal jugular vein closely resembled the pouch in colour and on palpation, I opened the sheath and displayed its contents to assure myself; in doing which the vagus nerve was very clearly seen. Such confirmation may seem unnecessary, but a dilated vein may be easily mistaken for a thin-walled sac, and to expose the sheath in its length for a longer distance meant unjustifiable trauma to the tissues. The sheath was then retracted laterally.

Antero-posterior.

Lateral.

[illegible]

The posterior belly of the omohyoid muscle was next defined and cut through as it lay directly in the path of operation.

Now the left lobe of the thyroid gland and the adjacent portion of the trachea are freed and retracted medially, care being taken not to traumatize the recurrent nerve; this procedure exposed the middle thyroid vein and inferior thyroid artery, both of which were doubly ligatured and divided so as to allow free access. At this stage the oesophageal diverticulum came into view, a bluish, soft, yielding structure that bulged forwards, thus resembling a dilated vein; palpation showed that it was empty, thanks to previous precautions. Its extent being difficult to estimate, owing to surrounding adhesions, my anæsthetist kindly passed an œsophagoscope into its whole length, thus giving me the required information. This instrument being then withdrawn, the diverticulum, that extended down to the root of the neck, was dissected out from below upwards, as far as its origin from the posterior surface of the œsophagus, special care being taken to ensure that all adhesions were removed so that the pouch could be freely drawn upwards out of the wound; an extremely delicate and difficult procedure, especially at its upper end.

The wound was then washed with hot normal saline, swabbed with S.V.R. and "B.I.P.P.-ed." The fundus was now seized, and sutured with black thread to the extreme upper end of the skin incision, care being taken that the neck was not kinked, but that, at the same time, the fundus now took up a position on a level just superior to its neck, thereby making it a very difficult matter for any swallowed food to enter the pouch.

After leaving a tiny opening at the lower end for the passage of a corrugated rubber drain, the wound was closed in its whole length. I feel that I should mention here a mistake that I made, viz., I carelessly forgot to anchor the rubber drain; of which more anon.

When all was finished the fundus of the sac protruded from the wound for about half an inch.

This was very ably administered by Dr. John Hunter, M.R.C.S., L.R.C.P. Three grains of nembutal, in capsules, had been given by mouth one hour beforehand, but both of these were immediately vomited, having apparently gone into the pouch; again, a further three grains, in powder, were administered by mouth, but this second dose fared little better than the first, for it entered the pouch and was hardly absorbed at all.

A hypodermic injection of atropin $\frac{1}{100}$ gr., was given half an hour before operation.

The anæsthesia was obtained by intratracheal nitrous oxide and oxygen, through a MacKesson's apparatus.

Course of the Case. November 3, 1931.—a.m.: Slight vomiting. p.m.: Swallowing saliva well. Tiny, hourly sips of a solution of glucose given by mouth.

November 4.—a.m.: Not very satisfactory; voice weaker; wound dressed and found healthy, but the rubber drain was not seen anywhere, and the lower opening in the wound was lightly sealed over. The diverticulum had almost receded out of sight, though the sutures were holding. p.m.: Wound gently explored through the lower opening when the rubber drain was found to be inside; removed; re-inserted and anchored; there was no suppuration. I cannot help feeling that the rubber drain was irritating the left recurrent nerve, and so causing the weakening of the voice, especially as this latter now rapidly recovered.

November 7.—Progressing very well ; swallowing fluids easily ; nor do any seem to be entering the diverticulum. Semi-solid diet, with minces and jellies, allowed. Rubber drain left out. Allowed up for the first time.

November 9.—Very satisfactory. All sutures removed, except those holding the sac ; which latter is hardly to be seen.

November 15.—Weight is now 9 st.

(4) Operation No. 2, Stage 2.—On November 16, 1931, removal of the diverticulum (see chart).

Procedure : The wound was largely reopened, the incision being extended upwards during the operation. The diverticulum was very difficult to define, and still more to dissect free, owing to new and extensive adhesions.

Eventually, after careful perseverance, it was once more at liberty, and then its neck, being compressed with artery-forceps, was ligatured with stout catgut and the sac excised.

Pure acid carbolie was now applied to the cut surface, and the stump invaginated and entirely buried by a purse-string suture of fine catgut ; another catgut suture was then so placed that the purse-string suture itself was partly buried. This part of the operation was exceptionally difficult, owing to the cramped space for manipulations, whilst I found the limits of the true œsophagus hard to define, though here again was I considerably aided by the passage of an œsophagoscope, that also enabled me to make sure that there was neither perforation, contraction or dimpling of the wall of the œsophagus : thus showing that the suturing had been correctly carried out. (This, I suggest, is of vital importance to the success of the operation.)

The wound was now cleaned and "B.I.P.P.-ed," and completely sutured, except for a small opening at the upper end for a rubber drain.

Dr. Hunter gave the patient a preliminary dose of 3 gr. of nembatal by mouth, also a hypodermic injection of atropin $\frac{1}{100}$ gr., half an hour previous to **Anæsthesia.** operation, and used nitrous oxide and oxygen intratracheally as before.

I may note here that this time the nembatal calmed the patient considerably, though it did not induce sleep.

November 17.—Condition satisfactory.

November 18.—Rather collapsed ; complaining of great thirst. Wound dressed.

November 19.—Restless night ; can swallow saliva without any difficulty. Tongue moist, but very coated. Wound satisfactory.

November 21.—Great improvement. Allowed to swallow egg-flip with brandy, but to take twenty minutes to swallow half a pint.

November 22.—One suture removed ; no suppuration. Allowed to swallow all fluids.

November 23.—Swallows fluids well and without any difficulty whatsoever, nor is there any evidence of leakage. Several sutures removed. Allowed up for one hour.

November 24.—Doing well. All remaining sutures removed.

November 26.—Wound healing much more rapidly than was the case a day or so ago. Swallowing well and easily. Has lost 8 lb. since operation No. 2, Stage 2.

November 30.—Very well. Allowed cream-chicken and well-soaked sponge-cake.

December 5.—Wound healed. General condition most encouraging. Swallows

minces easily. The tongue, that persisted in remaining very coated and unpleasant for many days, is now quite clean and moist. Gaining weight rapidly, her weight being now 9 st. Is going home to-day.

For details of feeding by glucose, see the Temperature Charts.

December 23.—Letter from patient states: "Very satisfactory; have gained a further 9 lb. Swallowing well."

January 29, 1932.—"Getting on wonderfully." Weight is now 9 st. 10 lb.

May 2, 1932.—"I am going on wonderfully, and feel ever so much better since my operations. I can eat anything now and have no trouble whatsoever in swallowing. The wound has healed beautifully and one hardly notices it."

All toxic foci should be removed first, viz., dental and tonsillar in this case. I think that I delayed too long between Stages 1 and 2, viz., fourteen days, thereby allowing the unavoidable adhesions to become too firm and extensive. Great care must be taken not to injure the recurrent nerve. It would seem to me the wiser plan not to open the sac.

I enclose two radiograms of the neck.

**Observations
on the
Case.**

A SHORT NOTE ON ENDOSCOPIC RESECTION OF THE PROSTATE.

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THE limited applicability of the older "punch" and other per-urethral procedures for the relief of prostatic obstruction has led to a strong feeling of distrust in this country towards all such methods. That such a view is to-day unwarranted we are convinced. Many who, in the past, have been strong in their condemnation of attempts at endoscopic resection are now whole-hearted in their enthusiasm. A timely word appears desirable during this phase of over-enthusiastic resection lest an excellent procedure become discredited through misdirected zeal. Let not judgment be warped by enthusiasm!

The endothermic resection of to-day enables us to deal adequately with 75 to 80 per cent. of all prostatic obstructions. There is virtually no limit to the amount of prostatic tissue which may be removed, and instead of a major operation carrying a mortality of 10 to 20 per cent. the patient may be relieved of his urinary obstruction by means of a minor procedure with an estimated mortality-rate of but 1 to 2 per cent. in skilled hands. Confinement to bed is usually limited to one to three days, and the hospitalization ten to fourteen days. The post-operative absence of pain is remarkable, and it is seldom that any analgesic whatever has to be administered. Correctly performed, resection leaves the ejaculatory ducts intact and, a point not unimportant to many, sexual function is not impaired.

Broadly speaking, the main indications for the method are: (1) malignant prostatic obstruction, and in such micturition per urethram may be maintained for periods extending often over several years, so avoiding the alternative of permanent cystostomy with its attendant discomforts, nay, miseries. In such malignant cases, of course, repetition of the resection may be necessary owing to further growth of the neoplasm.