ment for this complication has yet to be decided. In the other two patients the prosthesis is apparently wedded to the bone as a result of more rigid fixation, and it may be that the marriage will be a long and happy one.

Wholly metallic (Moore and Bohlman, 1943; Loomis, 1950) and wholly plastic prostheses similar to ours (Hudack, 1951; Scales, 1951) have proved satisfactory replacements for segments of bone, but the relative merits of the two materials have yet to be evaluated. A judicious combination of the two materials is best in order to achieve the optimum of lightness and strength.

Summary

Bone resection and replacement by internal prosthesis are advocated for endosteal tumours of low malignancy.

The early results in three cases are reported.

The relative merits of amputation and resection are discussed.

The first patient's prosthesis was made by the dental school of the University of Leeds, the prostheses of the second and third patients by Messrs. Down Bros. It is a pleasure to thank Professor T. Read, of the University of Leeds, and Mr. V. Carter, of Down Bros., for the help they have given us with the designing and construction of these prostheses. We also wish to thank Mr. J. E. Andrews and Miss Frances M. Ellis for the clinical photographs.

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Medical Memoranda

Dermatitis after using "Pyrotex"

The following case is recorded because the condition is new to me and because such cases are likely to occur with increasing frequency.

CASE REPORT

An electrician consulted me because of an irritation of his left forearm. He is a healthy man of 39 with no previous history of skin complaints.

On examination a patch of dermatitis 3 by 2 in. (7.5 by 5 cm.) was seen on the front of the left wrist. This had been extremely irritable for 24 hours. We found that the only new substance handled recently was an electrical conductor known as "pyrotex." This conductor, I am informed, is becoming more frequently used, as it overcomes many of the technical difficulties met with in the more common and older electrical conductors. It consists of a copper tube tightly packed with glass fibre, with the wire running down the centre, the glass fibre being the insulating medium. It is flexible, heat-resisting, and any short-circuit would immediately go to earth through the copper tube. The patient had been using this medium for the first time 36 hours before the onset of his trouble.

On examining the lesion under a lens a minute spicule was seen protruding from one point. This was scraped off with a scalpel. A specimen of the insulating powder was now removed from the tube and examined under the microscope. It appeared in all ways to be similar to the spicule removed from the skin. A little of the powder was used for a patch test. After 36 hours there was no reaction when the adhesive plaster was removed in the morning. After a day at work, the patient came to see me again with an identical patch of dermatitis in the area used for the patch test. It appeared reasonable to presume that there was no reaction while the adhesive plaster immobilized the area, but that friction from the shirt on particles adhering to the skin

quickly brought on an intense reaction. Careful washing, a soothing ointment, and the removal of the cause resulted in the complete disappearance of the lesion within 24 hours. I believe that the aggravating cause of his first lesion was friction from the shirt cuff.

It is suggested that men working with pyrotex should do so with their sleeves rolled up to the elbow, that precautions be taken to prevent the powder from contaminating the clothes, and that special care be given to washing soon after contact.

CECIL W. WARD, M.B., Ch.B.

A Case of Meigs's Syndrome

In 1934 J. V. Meigs (quoted by Beaumont, 1950) drew attention to a striking condition in which an ovarian fibroma was associated with a pleural effusion and ascites. The pleural effusion (and ascites) cleared up and did not recur after removal of the ovarian tumour. Reviewing the subject, Beaumont states that up till 1944 only 30 cases had been recorded, 27 of these in America. In most cases the pleural effusion was on the right side.

Boyd (1950) states: "The nature of this rare condition is completely obscure, although a number of ingenious suggestions have been made in an attempt to explain how a benign ovarian tumour can cause pleural effusion." Two of the "ingenious" suggestions are: (1) That the pleural effusion is due to pressure on the azygos vein. The fact that pleural effusions are unknown in normal pregnancies, where the azygos vein is probably pressed upon to a greater extent, deprives this theory of any attractions it might have held. (2) That a persistent congenital pleuro-peritoneal channel might permit ascitic fluid to overflow into the chest, since ovarian fibromata, though benign, are known to be frequently associated with ascites. This theory is, however, not proved.

Until a satisfactory explanation is forthcoming to elucidate this mysterious association, cases of Meigs's syndrome such as the one described below will continue to be of interest.

CASE REPORT

A married woman of stout build aged 56 was admitted to hospital on April 4, 1951, complaining of lower abdominal pain of relatively sudden onset, duration 36 hours. She had vomited once, 12 hours before admission. There was no constipation or diarrhoea. She had noticed slight breathlessness on exertion in the preceding few weeks, and a slight unproductive cough was present. There had been no history of haemoptysis and no loss of weight. Fourteen years previously she had had an attack of pneumonia, and had also been operated on in 1945 for a strangulated femoral hernia. Otherwise her health had been quite good.

On examination she was of good colour and well nourished; her tongue was clean and moist. Her blood pressure was 140/80; temperature and pulse were normal. The abdomen was distended, partly by fat and partly by a rounded lower abdominal mass, reaching midway between the umbilicus and the pubis. Vaginal examination confirmed the impression of a large solid intra-abdominal tumour, arising from the pelvis. The heart sounds were normal. A small pleural effusion was detected at the base of the right pleural cavity. A blood count showed: red cells, 4,000,000; colour index, 0.9; white cells, 8,400 (neutrophils 75%; lymphocytes 22%, eosinophils 1%, basophils 1%, metamyelocytes 1%). E.S.R., 50 mm. in one hour (Westergren).

A diagnostic thoracentesis was performed on April 16 and 20 ml. of straw-coloured fluid was withdrawn. The pathological report was: "Cloudy yellow fluid containing a clot 1 cm. in diameter. Cells: 50% polymorphs, 50% lymphocytes. Ziehl-Neelsen's test, no acid-fast bacilli seen. Gram film, numerous pus cells. Cultures sterile." On May 4 a laparotomy was done (Mr. T. J. Cobbe) and a round pedunculated solid ovarian tumour 15 by 13 by 14 cm.

was removed. About 15 oz. (425 ml.) of slightly blood-tinged fluid was evacuated from the peritoneal cavity. There were no secondary deposits. The pathological report on the ovarian tumour stated that it was a myxofibroma. "The cell nuclei are small and angular, and in the myxomatous areas they are widely separated. The latter areas show irregular patches of haemorrhage. There is no sign of malignancy."

The patient made a good recovery, and, as she was anxious to leave the hospital, 7 oz. (200 ml.) of pleural fluid (this time blood-stained) was evacuated from the right pleural cavity. Before she left hospital on May 19 the radiologist confirmed that the fluid in the chest was much reduced. She was seen again on June 5, when the radiologist reported: "Lung fields clear now." Clinically she was symptomless and looked very well. On July 3 the radiological report was "Lung fields all clear." The patient, who had kept in good health, reported a gain in weight of 7½ lb. (3.4 kg.) since she left hospital. The E.S.R. was now 8 mm. (Westergren).

COMMENT

The possibility of other conditions—for example, primary or secondary neoplasm in the lung or pulmonary tuberculosis—coexisting with the ovarian myxofibroma was kept in mind. However, the failure of the pleural effusion to recur, the patient's gain in weight, coupled with her excellent clinical condition and the return of the E.S.R. to normal, appeared to rule these possibilities out of court, leaving the diagnosis of Meigs's syndrome undisputed.

I am grateful to Mr. T. J. Cobbe, surgeon, Royal Victoria Hospital, Dover, for his encouragement and for permission to report this case.

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Repair of a Damaged Accessory Hepatic Duct by Anastomosis with the Cystic Duct

According to Flint (1923), the commonest cause of a leakage of bile following cholecystectomy is probably injury to an accessory hepatic duct and not, as is so often thought, slipping of the ligature around the cystic duct or a tear of the main bile-ducts. An accessory duct was present in about 15% of the 200 post-mortem specimens which he examined. They arose in the right lobe of the liver, lying at first posterior to the cystic duct, and joined the common hepatic duct at different levels. Flint recalled at least two occasions when he was confronted with the cut end of a duct which did not seem to fit in with the normal pattern, and referred to Moynihan as having had a similar experience.

This report concerns a case in which the damage to the accessory duct was not discovered until a week after the gall-bladder had been removed, by which time the abdominal cavity contained several pints of bile. Contrary to my usual custom, no drain was inserted, an omission which adds to the chastening effect of such a complication. Fortunately, the remnant of the cystic duct was long enough to bridge the gap and so redirect an appreciable flow of bile into its proper channel.

CASE REPORT

A housewife aged 51 was admitted to hospital on February 16, 1949, with cholelithiasis, from which she had suffered for the preceding six months. She had never been jaundiced, and, apart from a rather capricious appetite, was otherwise well. Cholecystography revealed the presence of numerous small stones in a functioning gall-bladder.

Cholecystectomy was performed under spinal anaesthesia on the day after admission. A right paramedian incision

was chosen, and no difficulty was encountered during exposure of the gall-bladder. It had a slightly thickened wall and contained six small cholesterol stones. The cystic duct was readily identified, and was traced as far as its junction with the common duct. The cystic artery, however, could not be exposed to view: an aneurysm needle was therefore carefully passed through the fatty tissue lying behind the stump of the cystic duct and a ligature applied. After cutting across between the latter and distally applied forceps, no bleeding occurred, nor was there a noticeable escape of bile. In fact, the wound was so dry after the bed of the gall-bladder had been re-peritonized that it seemed safe to dispense with a drain. The other viscera that lay within reach were regarded as normal.

Post-operative Course.—Two days later the patient began to complain of vague generalized abdominal discomfort with occasional bouts of sickness. These symptoms were at first taken to be the natural sequelae of the operation, but when they persisted despite enemata, and particularly when a trace of jaundice appeared, it became obvious that something serious had gone wrong.

The wound was reopened on the seventh day. On opening the peritoneum a large quantity of bile flowed out. Owing to the altered state of the tissues it was not possible to make a clean dissection of the vital area, but eventually the common bile and hepatic ducts were exposed. The leak occurred from neither of them, but from a gaping duct which emerged from the liver at the extreme right of the porta hepatis. It had been cut across almost flush with the liver surface, and was about 3 to 4 mm. in diameter. The stump of the cystic duct happened to lie in the close vicinity and was long and wide enough to anastomose to the accessory duct. Accordingly, the catgut ligature was removed from the cystic duct and its patency checked. A T-tube was found that fitted comfortably into both ducts. These were brought together without tension with a single row of interrupted catgut sutures. The site of operation was also drained by a separate tube.

Bile continued to leak alongside as well as through the external limb of the T-tube for about 10 days. Thereafter it drained only through the tube in daily amounts of about 1 to 2 oz. (28 to 57 ml.). The T-tube was removed after four weeks. By that time the jaundice had completely cleared and the stools, which had previously been slightly pale, returned to a normal colour. The patient was discharged from hospital, after a stay of six weeks, in a satisfactory state of health. When seen a few months ago she had no complaints to make.

COMMENT

It is supposed that the distal end of the accessory hepatic duct was ligated along with the cystic artery, then cut across, and the proximal end left unattended. Flint and Moynihan simply tied the proximal end of such accessory ducts, with no apparent ill-effects. Walters (1924) described a method, for which he gave C. H. Mayo the credit, whereby the stump of the cystic duct is utilized to re-establish continuity. The calibre of the anomalous duct was the smaller of the two in their cases, but this difficulty was overcome by telescoping the one into the other, using catgut sutures. In the case reported, it was not only possible to accomplish an end-to-end approximation but also to employ an internal splint in the form of a T-tube. To have followed the modern preference of bringing the ducts together over a T-tube that has been inserted through a separate incision in the duct to be repaired (Cole *et al.*, 1949) would have meant opening the common bile duct, but this step was not necessary in the circumstances.

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