tion by practising on stillborn infants. As a precaution a Cardiff connector could be fitted to the tube before insertion (Fig. 2).

Possible modifications of the tube itself include increasing the overall length, fitting a collar or crosspiece, or simply attaching a plastic tail to enable easy withdrawal.

If the case with which a tube can be lost is appreciated this accident is unlikely to occur.

We wish to thank Mr. D. J. Waterston and Professor A. W. Wilkinson for permission to publish details of these cases admitted under their care.

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Acromegaly and Hyperparathyroidism

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Underdahl, Woolner, and Black (1953) described the syndrome of "multiple endocrine adenomas," which may be familial. They reported eight cases in which the parathyroid and pituitary glands and pancreatic islets were involved. Vancil and Locke (1965) were able to collect 16 cases of acromegaly and hyperparathyroidism from the literature and added a case of their own. They gave an extensive review of the subject. Another case is here described.

CASE REPORT

The patient, a 54-year-old housekeeper, presented at the general surgical outpatient department of the Middlesex Hospital in July 1964 with a Baker's cyst of the right knee associated with osteoarthritis. Her appearance was noted to be acromegalic and she was referred for further investigation.

The onset of acromegaly was uncertain. She had noticed her hands and feet getting larger over the previous 10 years and she now needed shoes three sizes larger. In 1952 she was thought to be hypothyroid and had been started on thyroid tablets. In March 1962 a total hysterectomy and bilateral salpingo-oophorectomy for papillary adenocarcinoma of the ovary had been performed at another hospital. She was observed to be acromegalic at that time.

On her admission in December 1964 she complained that for six months she had had blurred vision on looking downwards. She admitted to excessive thirst but denied polyuria. Her mother had died at the age of 60 of pernicious anaemia but without any known thyroid disorder. One of her father's brothers had had a nephrectomy for "kidney trouble."

On examination she had an acromegalic facies and large hands, feet, and tongue. Her eyelids were puffy, and multiple seborrhoeic warts were present over the chest and abdomen. Her visual fields were full and there were no cranial nerve abnormalities. Her blood pressure was 155/85 mm. Hg.

X-ray examination of the skull showed an enlarged pituitary fossa with erosion of the dorsum sellae. The fasting plasma growth hormone level was kindly estimated by Dr. F. C. Greenwood, of the Imperial Cancer Research Fund Laboratories, and the concentration found (248 m μ g./ml.) confirmed the diagnosis of active acromegaly (Greenwood, Stewart, Forrest, and Wood, 1965). Intravenous glucose-tolerance test: fasting blood glucose 74 mg./100 ml., K factor=1.24. Thyroid antibodies were absent. Hypercalcaemia was found, her initial fasting level being: serum calcium

12.4 mg./100 ml., with a phosphate of 3.2 mg./100 ml. and an alkaline phosphatase of 6.2 units/100 ml. These results were repeatedly confirmed. The urinary calcium was 200 mg./24 hours and an intravenous pyelogram showed three opaque calculi in the lower pole of the right kidney.

On 17 February 1965 transfrontal hypophysectomy was performed by Mr. Valentine Logue. Histology of the gland showed an eosinophilic adenoma with fragments of compressed normal pituitary. The patient was discharged on prednisone 5 mg./day in divided doses and L-thyroxine 0.1 mg. t.d.s.

She was readmitted in October 1965 for treatment of the hyperparathyroidism. Her serum calcium was 12.2 mg./100 ml., phosphate 2.8 mg./100 ml., alkaline phosphatase 6.3 units/100 ml., and the urinary calcium 580 mg./24 hours, again on a ward diet.

On 19 October her neck was explored by Mr. R. T. Turner-Warwick. An adenoma of the right upper parathyroid gland and an enlargement of the left upper gland were found. The remaining two parathyroid glands appeared normal. Both upper glands were excised and biopsy specimens were taken from the lower ones. The right upper gland measured 3 by 1.5 by 0.7 cm. and weighed 1,900 mg. It consisted of an adenoma composed mainly of clear cells with some areas of more eosinophilic chief cells. The left upper gland measured 0.7 cm. from tip to tip and weighed 150 mg. It contained a small cyst, but the tissue pattern was normal. The biopsy specimens from the lower glands showed normal parathyroid tissue. The postoperative serum calcium was 9.6 mg./100 ml. and phosphate 3.7 mg./100 ml. The urinary calcium was 170 mg./24 hours on a ward diet.

Comment.—The association of acromegaly with hyperparathyroidism is now well recognized but uncommon. It is probably not a chance relationship, but rather a manifestation of the multiple endocrine adenoma syndrome. This patient's hyperparathyroidism was virtually symptomless and its detection was made biochemically.

This patient was under the care of Dr. J. D. N. Nabarro. I am grateful for his kind advice in the preparation of this report. The pathological report on the operation specimens was made by Dr. D. S. T. J. Brew.

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