

only way of distinguishing the two latter conditions, as their clinical effects could be exactly similar. In the diagnosis of hyperparathyroidism and adrenal cortical hyperactivity, skeletal radiographs helped considerably, and also in assessing bone age in cretinism, hypogonadism, and sexual precocity. Calcification in the adrenals might help confirm the tuberculous nature of Addison's disease, while renal calcification was a sign of the increased renal excretion of calcium in hyperparathyroidism. Hypoparathyroidism was associated with increased density of the bones and calcification of the basal ganglia. Serial radiographs of the hands in acromegaly and of the heart in myxoedema confirmed the effectiveness of therapy.

#### Tumours Around the Sella Turcica

Dr. G. F. SWANN (National Hospital, Queen Square) then described the radiological appearances of intrasellar and parasellar tumours. He had investigated this subject because of a case with unusual features. Tracings of the radiographs of 50 cases of intrasellar tumour showed that their main features were deepening of the sella with thinning of the floor and dorsum sellae, backward tilting of the posterior clinoid processes, and elevation and undermining of the anterior clinoid processes. Suprasellar extension caused displacement of the third or lateral ventricles. There was no correlation, however, between the appearances of the sella and the development of endocrine changes—the latter occurring in only 20 cases. A parallel series of 50 cases of craniopharyngioma showed less enlargement of the pituitary fossa, but destruction of the posterior clinoid processes and hollowing of the anterior clinoids with adjacent calcification. Intrasellar calcification tended to be commoner among the younger patients, but bore no relationship to the size of the sella. All cases showed deformities of the ventricular system, and in 30 there were endocrine changes, in the majority of instances hypopituitarism.

In 15 cases of suprasellar meningioma visual failure was the predominant symptom and there were no endocrine changes. Radiology showed destruction of the posterior clinoid processes and hollowing of the anterior clinoids with calcification above. The floor of the sella was not affected. Carotid angiography confirmed the nature of the tumour by demonstrating the typical vascular pattern.

Raised intracranial pressure caused flattening of the sella, due to enlargement of the third ventricle, hollowing of the anterior clinoid processes, and destruction of the posterior clinoids. Secondary endocrine changes were rare.

#### Hypothyroid Children

Dr. R. ASTLEY (Children's Hospital, Birmingham) discussed hypothyroidism in children. The main radiological change was the delay in appearance of the centres of ossification, which were also abnormal, being dense, honey-combed, or fragmented. The metaphyses were widened, with a line of increased density, and there was also a general decrease in the length of bones although their width was normal or increased. Other features included delay in closure of cranial sutures and fontanelles, presence of Wormian bones, hypoplasia of vertebral bodies, and occasionally calcinosis of soft tissues.

Epiphyseal dysgenesis was best revealed in the femoral heads, and serial radiographs would show gradual improvement after the institution of thyroid therapy. Until 6½ years the bone age was best estimated from a radiograph of the carpal bones, but after this the elbow was more useful. An important differential diagnosis was dysplasia epiphysialis multiplex. In this condition dwarfism, stubby digits, and mottling of the epiphyses occurred, but pain was a prominent symptom in contrast to the painlessness of hypothyroidism. Characteristic radiological features of dysplasia epiphysialis multiplex were the irregularly shaped mottled epiphyses and marked sloping of the lower epiphyses of the tibiae and talus. There was, of course, no response to thyroid therapy.

#### Adrenal Lesions

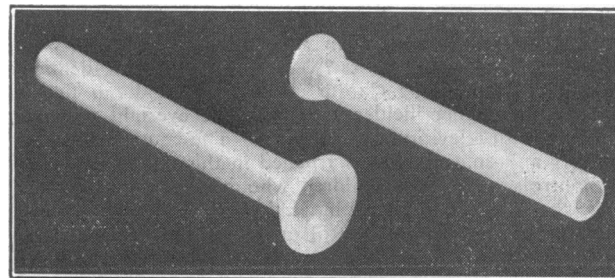
Dr. J. W. LAWS (Hammersmith Hospital, London) brought the session to a close with a paper on the radiology of the adrenals. In the diagnosis of adrenal hyperplasia or tumours he found that perirenal insufflation with either oxygen or carbon dioxide combined with an intravenous pyelogram and tomograms gave the most useful information. The outline of the normal adrenal gland was triangular, with an area of 1-8 sq. cm.: in adrenal hyperplasia both glands were increased in size, whereas if an adenoma was present the contralateral gland was reduced; convexity of the borders of the gland was pathognomonic of a tumour. False negative results might be obtained if the tumour was small, or if it was malignant and thus impaired the spread of oxygen throughout the surrounding tissue planes. Dr. Laws then briefly discussed the hormones produced by the adrenals and their clinical effects. With the advent of cortisone cases of adrenal haemorrhage might now recover and later show areas of calcification.

In Addison's disease a chest film was essential to exclude pulmonary tuberculosis, while serial films might show decrease in heart size once effective therapy was begun. Cushing's syndrome produced striking effects on protein metabolism, and these manifested themselves radiologically as osteoporosis and by spontaneous fractures. Primary aldosteronism always had to be differentiated from potassium-losing nephritis, and an intravenous pyelogram might help by showing in the latter condition evidence of poor renal function due to previous pyelonephritis.

## Preparations and Appliances

### SUBSTITUTE FOR THE SOUTTAR TUBE

Mr. J. K. B. WADDINGTON, consultant thoracic surgeon, Aintree Hospital, Liverpool, writes: The treatment of oesophageal stricture by a spiral-wire Souttar tube is often unsatisfactory. The irregular inner surface becomes clogged by curds of food particles and may be invaded by tumour cells growing between rings of wire. Moreover, its metallic construction encourages ulceration of the tumour, with the result that the tube sloughs through the stricture and finishes up in the stomach.



To avoid these inconveniences, a "polythene" tube 4 in. (10 cm.) long by ¼ in. (9.5 mm.) in diameter was devised. Its flared end provides a better "lead-in" for food into the tube, it rests lightly on the stricture, and does not ulcerate. The smooth surface remains clean, and it is impenetrable by tumour cells. The tube is easily introduced by orthodox methods, and where the stricture is tortuous the tube can be softened in hot water to make introduction easier. The flared upper end can be trimmed with scissors if it is too large to pass through a female oesophagoscope. Having used this type of tube for twelve months, I now prefer it to the regular Souttar tube, and it has on occasion been *in situ* for as long as four months without requiring any attention. The initial models were procured for me by Messrs. Alexander and Fowler, of Liverpool, and are manufactured by Portland Plastics Ltd., Hythe, Kent.