No *post-mortem* examination was possible until the next day, when the following changes were found.

Lungs.—The right lung was studded with caseous tuberculous masses, some an inch in diameter. There were pleural adhesions at both apices.

Heart.—Weight 7 oz. No macroscopic changes were seen.

Liver and Pancreas.—No naked-eye changes were seen, but subsequent microscopic examination of the pancreas showed extensive fibrosis in which no islet tissue was visible. Other ductless glands showed no changes.

Glycogen Contents.—The amount of glycogen was determined in the heart, liver, and muscles by Pflüger's method rather more than twelve hours after death had taken place. Considering the glycogenolysis that must have taken place in this time and the fact that he was a severe diabetic, the figures of 0.014 per cent. for muscle, of 0.028 per cent. for myocardium, and of 0.04 per cent. for liver are perhaps suggestive of what happens to circulating glucose in insulin hypoglycaemia.

Brain.—This was definitely "wet"; the pia mater showed areas of milkiness, but there was no evidence of basal meningitis.

In making this record of the two cases I am greatly indebted to my colleague, Dr. L. Cunningham, with whom all the biochemical work was done; also to my late house-physician, Dr. A. J. Hawe, who made many of the observations in the fatal case.

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CONGENITAL CYSTIC DISEASE OF THE LUNGS.

BY

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A NEWLY born child was found dead in circumstances which suggested infanticide, and was submitted to me for examination.

The body was that of a child of about eight months' intrauterine age. It was free from marks of violence. Both lungs were in an apparently foetal condition and sank on being placed in water; both were in a state of advanced cystic degeneration (Fig. 1).

FIG. 1. Left Lung.

immediately under the pleural surface. Numerous bronchi were seen filled with cast-off cubical and cylindrical epithelium and other debris. A certain amount of cellular infiltration could be observed around the bronchi and there were numerous small haemorrhagic foci in the lung tissue.

Cystic degeneration in both lungs of a newly born child is very rare, and the reason for its occurrence is rather obscure. Bronchiectasis occurring after birth is usually

attributed to weakening of the walls of the bronchi by disease, whereby they are unable to resist the air pressure in fits of coughing. Barty King considers that pleural adhesions also play an important part in producing the initial dilatation.

In this case air pressure cannot be considered, for the child had never breathed, nor were there any pleural adhesions, and the cause of the condition must be sought elsewhere.

In the developing lung the bronchioles terminate in a bulbous extremity into which groups of atria open. Groups of air cells or alveoli which form the air sacs open into these atria. The alveoli are not formed until about the sixth month of intrauterine life, and before respiration commences they are lined with cubical epithelium which gradually becomes flattened when respiration occurs.

In our specimen the microscopical state of the tissues indicates that the cysts have not been recently formed, and their origin from the alveoli cannot be admitted in view of the late development of the alveoli. They must therefore be due to dilatation of the atria, infundibula, or bronchioles.

The absence of columnar or cubical epithelium in even the smallest cysts and of any trace of muscular or elastic tissue in their walls tends to exclude an origin from bronchi or bronchioles. Such a condition is, however, found in ordinary bronchiectasis, where the pressure of the retained secretion causes flattening of the cubical or cylindrical epithelium, while the stretching causes atrophy and disappearance of the muscular fibres. It would be difficult, therefore, to be certain from the histological disposition of the tissues whether we are dealing with a dilated bronchus or a dilated infundibulum, but the appearance of the smaller cysts particularly does not resemble bronchial dilatation. The cysts are found immediately under the pleura, and as the terminations of the bronchioles do not abut on the pleural surface this tends to exclude an infundibular origin. The condition is therefore a congenital cystic degeneration of both lungs caused by the dilatation of the atria.

The presence of mucoid or colloid matter in many of the cysts indicates that secretion from their walls is fairly active, and if, as is suggested by the microscopical sections, there was some inflammation of the bronchioles which caused blocking of their lumen, this would account for the retention of the secretion and dilatation from the consequent pressure.

PNEUMOCOCCAL WOUND INFECTION:

NOTES ON TWO CASES.

BY

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CASES of suppuration due to the pneumococcus in regions other than the upper and lower respiratory tracts and adjacent sinuses, the pericardium and peritoneum, the meninges, and the middle ear, are sufficiently rare to merit publication, especially when the infection is apparently primary and not blood-borne. Even the subcutaneous injection of a virulent pneumococcal culture in guinea-pigs causes death by septicaemia, with comparatively little local reaction, although a local abscess, with a characteristic fibrinous exudate, sometimes forms. The two cases here described were both "traversing" bullet wounds, and in both the primary infection appeared to be pneumococcal.

CASE I.—Pneumococcal Infection of Diffuse Traumatic Aneurysm of the Axilla.

A Chinese soldier, aged 35, was shot through the right sub-clavicular region in November, 1924. The bullet entered anteriorly and traversed the pectoralis major, injured the third part of the axillary artery, and passed out through the teres major muscle. A tense pulsating swelling immediately formed in the right axilla, and he lost the use of the right hand, although no sensory disturbance was noticed, and very little haemorrhage occurred from either wound. After a few weeks the swelling increased so much that he had to maintain the arm in a position of marked abduction.

Six weeks later the swelling became very painful, and the