tomy is the treatment of choice if the condition is unilateral.

Renal sarcoma must always be thought of in infants and young children with hæmaturia. As a rule, however, the hæmaturia is a terminal manifestation of the disease, and one is generally confronted with a wasted child with a swelling in the loin and copious blood in the urine; such cases are inoperable.

Scurvy rickets may give rise to renal bleeding before swelling of the bones is detected.

Difficult micturition, without pain, is due to either phimosis or to atresia of the external urinary meatus. In the former the outlet from the preputial sac may be no larger than a pin's head, causing the sac on micturition to balloon with fluid. Both conditions are easily dealt with by well-known minor surgical measures. Difficulty with pain should raise the suspicion of stone or foreign body in the bladder or urethra.

ENURESIS.

Children suffering from lack of complete voluntary control of the bladder may be divided into two groups according to whether the condition has persisted from infancy or whether it has come on later. In the majority of the latter group it is mostly at about the age of 6, the period of commencement of the second dentition, that the disturbance recurs. As a rule, the trouble has disappeared by the age of puberty. In every case of enuresis, especially when the symptoms have not persisted from infancy, the urinary tract should be the subject of most careful study, as there is always the possibility that there is present some definite disease such as stone. Polyuria of nephritis or diabetes, phosphaturia, uric acid excess, colon bacilluria, and causes of peripheral irritation such as balanitis, vulvitis, threadworms, or skin disease, must be sought and checked. Some cases are associated with mental weakness or epilepsy. In a certain proportion there is no cause which can be ascertained.

There is an unusual condition of bladder distension, accompanied by dilatation of both ureters and kidneys and which gives rise to overflow dribbling of urine. It occurs in children, and without any mechanical obstruction which can be identified. The pathology of the disease is obscure. It has been suggested that it is caused by congestion at the neck of the bladder.

Pyuria may accompany a number of pathological conditions of the urinary tract, but when this is the most prominent feature of a case—that is to say, that symptoms such as pain, frequency, difficulty, hæmaturia, &c., have been slight or absent—the pus is generally of renal origin. When due to some bladder condition, dysuria and frequency are the outstanding features.

RENAL ENLARGEMENT.

The diagnosis of the cause of this does not, as a rule, present any special difficulty in children. Polycystic kidney, sarcoma, and hydronephrosis

will have to be considered in all cases, any one of these may be bilateral, and likewise may give rise to hæmaturia. Copious bleeding in a child under 5 years, combined with the other clinical features characteristic of the disease, is generally enough to make the diagnosis of renal sarcoma.

In hydronephrosis, if the cystic nature of the condition is not appreciable, cystoscopy and pyelography, if necessary, will demonstrate the condition. In polycystic disease the irregular surface of the kidney, especially if both kidneys have this feature, makes the diagnosis easy. An enlargement without features which would characterise any of the above conditions calls for a radiogram to decide the question of stone, and if this is negative a tuberculous kidney will have to be considered.

CYSTOSCOPY IN CHILDREN.

The necessity for cystoscopy in a young child or an infant frequently arises, and the question naturally follows as to what age the child must attain before this procedure can be carried out. Children's cystoscopes are now made of such delicate dimensions that no infant's urethra is too small to prevent the passage of one of these instruments without fear of injury to the patient.

THE PATHOLOGY OF BRONCHIECTASIS

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THIS disease was first adequately described by Laennec at the beginning of the nineteenth century. Since then many accounts of it have been written, of which the best in English text-books is still that of Fowler and Godlee in "Diseases of the Lungs," 1898.

Bronchiectasis consists of chronic dilatation of the bronchial tree.

ÆTIOLOGY.

The disease is rarely primary. The actual causes of its production may be divided into three classes: (1) those leading to distension of tubes from within, (2) those which cause weakening of the bronchial walls, and (3) those which pull on the bronchial wall from without. Fowler and Godlee give two classes, intrinsic and extrinsic, and in the former class place acute and chronic bronchitis, bronchial stenosis and obstruction, to which may be added chronic suppuration; and in the latter class, collapse of the lung, pneumonia, emphysema and fibroid lung. Of all these causes, that of bronchial obstruction, especially when due to foreign body, is the most likely to attract attention and is frequently placed first in the list, but as

matter of fact it is a rare cause. The commonest is fibroid lung. This disease generally begins in childhood, following broncho-pneumonia, is very slow in its progress, and is frequently not recognised until early signs of bronchiectasis supervene.

MORBID ANATOMY.

Bronchiectasis is generally unilateral and affects the lower lobe more commonly than the upper. There are two forms: (1) saccular, and (2) fusiform or cylindrical. In the former, the dilatation of the bronchi is irregular in distribution, giving rise to localised sacculations and bronchiectatic cavities. These cavities are not infrequently mistaken for those of pulmonary tuberculosis, whilst occasionally they become so large that they are accidentally tapped in exploratory puncture and a mistaken diagnosis of empyema is made. In the cylindrical variety the dilatation of the bronchi is more or less uniform. In addition to the dilatation of the bronchi, dark plum-coloured engorgement of the bronchial mucous membrane is generally present and ulceration and sloughing may follow (occasionally involving destruction of the subjacent tissues, including the cartilages). All the dilated bronchi contain large quantities of foul-smelling pus. The changes in the lung vary. In his original description, Laennec noted that the lung tissue closely resembled that of a lung which had been collapsed by serous effusion or empyema. Fibrosis of the lung is very common, and by the time the patient reaches the post-mortem table, septic broncho-pneumonia has generally intervened. Gangrene of the lung and abscess are also occasionally found, whilst the pleura is generally adherent from old-standing pleurisy. Very rarely an empyema or a pyo-pneumothorax may be found. The mediastinal glands are enormously enlarged, soft and septic, sometimes even breaking down and containing pus.

MORBID HISTOLOGY AND BACTERIOLOGY.

The bronchi show necrosis and sloughing of the mucous membrane, an enormous increase of connective tissue in and around the bronchial wall, and a similar increase of elastic tissue. The lung itself frequently shows extensive fibrosis, connective tissue being laid down in the interlobular septa, beneath the pleura, around the bronchi and vessels, and very often in the alveoli also. Added to this there may be patches of septic broncho-pneumonia. Frequently the destruction of tissues is so great that the alveoli can no longer be recognised. The pleura, as mentioned above, shows extensive deposition of connective tissue under the sub-pleural layers with new-formed vessels, connective tissue and elastic fibres passing through the pleural endothelium from the sub-pleural layer into the tough fibrous pleural adhesions.

The bacteriological flora of this disease is extensive. Pneumococci, streptococci, *B. pyocyaneus*, *B. coli*, *B. proteus*, various anaerobes and tubercle bacilli have all been found, often two or three of them together.

SPUTUM.

The sputum is purulent and foul-smelling, and very profuse in amount. When allowed to stand in a tall measuring glass it often settles into three layers, a layer of thick pus at the bottom, above that a greenish sero-purulent layer, corresponding to that which is seen when ordinary pus is allowed to stand in a test-tube for some hours, and above this a mucoid frothy layer. Stained films of the sputum show two characteristics: (1) a vast preponderance of polymorphonuclear cells, and (2) enormous numbers of Gram-positive and Gram-negative cocci, and bacilli of all kinds. Cultures may demonstrate any of the organisms mentioned above. Finally, the sputum may contain small portions of sloughing mucous membrane or of lung tissue, or elastic fibres.

COMPLICATIONS.

The complications seen in the post-mortem room are various. Lardaceous disease is probably the commonest. Local abscesses—pulmonary, bronchiectatic, &c.—are not uncommon. Metastatic abscesses may also be found, and in this connexion it is customary to mention cerebral abscess, although in the writer's experience the prevalence of this is sometimes exaggerated. Subperiosteal abscesses, lighted up by trivial injuries in a patient who is absolutely saturated with septic infection, are not uncommon. Chronic pulmonary osteo-arthritis is another interesting complication. Secondary hæmorrhage, as one might expect, is frequent in patients of this kind who have extensive tracts of suppuration. The commonest place for the hæmorrhage to take place is, of course, into the lung. Finally, tuberculosis is occasionally found complicating bronchiectasis. When sections of the lung are made, especially if these include the peribronchial tissue, it is sometimes possible to find giant cell systems and tubercle bacilli in cases in which tuberculosis was not suspected with naked eye.

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