(*d*) INFARCTS OF KIDNEY. The cortex is practically filled with infarcts, with congested parts between containing much blood pigment. From a case of uræmia.

(*e*) TUBERCULOUS NODULE IN WALL OF HEART. Invasion in this case had taken place by way of the cervical and tracheal glands and thence to glands along aorta.

(*f*) PULMONARY TUBERCULOSIS IN DIABETES. The lungs show nodules of varying size undergoing very rapid caseation and softening.

(*g*) A SUPERFICIAL ULCER from the same case, with dry glazed slough on surface.

III. ORIGINAL COMMUNICATION

A CASE OF HEREDITARY SYPHILITIC OSTEITIS

By ALEXANDER JAMES, M.D., F.R.C.P.Ed., Physician to the Royal Infirmary, Edinburgh

J. W., aged 18, a worker in bottle works, was admitted to the Royal Infirmary, December 8, 1898, complaining of swelling in the right leg, headache, and weakness in the right hand and arm.

Family history.—Although syphilis is denied on the part of either parent, there is practical certainty of its existence. The father is aged 40, the mother 47, and the following is the list of children and miscarriages.

1. A boy, by another father. Had pains and swellings in his legs, and the pains were distinctly worse at night. Died, aged 13 years, from inflammation of the lungs.

2. Boy, died aged 7 weeks, cause unknown.

3. Boy, died aged 6 days, had a swelling on his back at birth—[spinabifida (?)]. Mother says that she hurt her back when pregnant with this child.

4. The patient.

5. A miscarriage at the 3rd month.

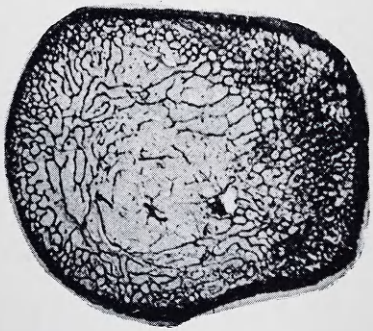
6. Boy, died aged 11 months, cause not clear, but had a rash on the skin.

7 and 8. Two miscarriages, about the 3rd month.

9, 10, 11 and 12. Four children, now alive and healthy.

This patient had no snuffles nor rash in infancy, but had keratitis, leaving spots on the eyes, when aged 2 years. At the age of 3 had scarlatina, and at this time a slight squint of

AGED 10 YEARS.



TRANSVERSE SECTION OF RIGHT TIBIA.

TO ILLUSTRATE DR JAMES' PAPER.

Aged 18 years.

To illustrate Dr James' Paper.

the right eye was noticed. At the age of 8 had measles and whooping-cough. Never had any accidents.

His present illness seems to have begun when he was about 9 years old, shortly after his attack of whooping-cough. He began to complain of pains in his arms and legs, the pains being much worse at night. About that time (1891) Dr John Thomson saw him and found the lower ends of both humeri thickened and tender, and a large flat node on the right tibia, about the junction of the middle and upper third. Dr Thomson also found a similar but smaller node on the left tibia, and a thickening of the spine of the right scapula. Iodide of potass was administered, and the patient improved very much.

In 1893 Dr Thomson again saw him, and found nodes on both tibiæ, especially the right, and a thickening at the lower end of the right humerus. The first photograph, for which I have to thank Dr Thomson, shows his condition at that time.

In 1897 he came into my ward in the Infirmary, complaining of pains in the legs, especially the right. At that time I found diffused thickening and elongation of the right tibia. The left tibia was also enlarged, but not so much so. No complaint was made then as regards the arms. He improved very much under the iodide of potass and rest, and after some weeks was discharged much improved.

In May 1898, he noticed that the index and middle fingers of his right hand were becoming weak. Gradually the other fingers became involved, so that at the end of a month, movements of the fingers and hand were lost. About the end of October he began to suffer from headaches. These were worse at night, and the pain seemed always to be most severe over the left eyebrow. About a week after this, twitchings of the muscles of the right hand and arm, occurring with periods of unconsciousness, were noticed. About the same time vomiting occurred at times. These symptoms led him again to seek admission to the Infirmary, and he was admitted as above.

State on admission.—He is a badly-grown boy, of about 5 feet 4 inches in height, and weighs 6 stones. His muscularity is very poor, he is apathetic, his pulse is usually about 70, and his temperature normal (see photograph No. 2).

Locomotory system.—The right tibia is thickened along its whole length. It is slightly curved inwards, and is about ¾ inch longer than its fellow. The left tibia seems also somewhat enlarged, but very slightly so in comparison with the right.

Nervous system.—Sensibility to touch, pain and temperature appears unimpaired all over. It is possible there may be some impaired sensibility in the right arm, but the patient is so apathetic that we cannot make sure of this. He states that of late his vision has become somewhat blurred, and he notices this especially on awaking from sleep in the mornings. On examination of the eyes, the appearance of slight old keratitis was found on the right. Both pupils reacted normally to light and accommodation. There was a slight amount of optic neuritis, especially on the left eye.

Hearing and taste were apparently normal, and he stated that he never possessed the sense of smell.

Voluntary motor power in the muscles of the right hand and forearm was practically lost. As regards reflexes, the plantar and epigastric were rather more marked on the left side; the cremaster was present on both sides. The knee and ankle jerks were absent on both legs.

Hæmopoietic and circulatory systems. — The lymphatic glands on both groins were enlarged, as also were those in the neck and submaxillary regions, and the epitrochlear glands. Those in the axillæ were not markedly enlarged. The spleen was enlarged, measuring 7½ by 5 inches. The thyroid was normal. The heart appeared normal as regards size, and its sounds were closed. The pulse, about 70 per minute, was of low tension, and the arterial walls somewhat thickened. The thickening was well marked in the veins of the legs; the right long saphenous vein could be traced, like a fibrous cord, from the dorsum of the foot to the groin.

The respiratory system was normal.

The urine, normal in amount, was of spg. 1015, neutral in reaction, and showed usually a deposit of amorphous phosphates.

The diagnosis made was hereditary syphilis—nodes followed by chronic osteitis, specially of the right tibia, producing a condition of local gigantism—tumour, probably gummatous, about the arm area on the left side of the brain.

The patient was put on large doses of iodide of potass, and he improved somewhat as regards the headaches and general condition. After two weeks in hospital, he determined to go home. There his condition soon became worse, and he died comatose on January 18th. The *post-mortem* examination was made, under rather unfavourable conditions, at his own house. A gummatous tumour about the size of a golf ball was found about the middle of the left rolandic area. The nerves were not examined, but a disc-like portion of the enlarged right tibia, near its upper part, was obtained. This showed great enlargement, measuring in diameter $1\frac{3}{4}$ inch by $1\frac{7}{16}$ inch. It was softened in corrosive and cut. Under a low power, as the photograph shows, the section appears much like a section of a cancellated bone. It shows a thin rim of compact tissue around, with cancellated tissue all through, and practically no medullary cavity. With higher powers the interspaces of the trabeculæ are seen to be filled up mainly by fat cells. Here and there, however, a few marrow cells are to be seen.

Remarks.—Here we believe we have a case of a distinct specific lesion, viz., the formation of a node, followed by the disappearance of the node and the development of a less specific condition, an osteitis. In the development of the node we recognise what Fournier[1] and others would call syphilis "en nature." In the osteitis we recognise the existence of pathological characters which would be called "parasyphilitique," "dystrophique," or "toxinique." In this latter condition we recognise as the factor the innate constitutional deficiency, rather than the specific virus.

A point worthy of remark here is that this patient, after getting quit of the nodes on the bones and showing only the osteitis, yet died eventually of a gumma of the brain.

This osteitis has, as the section of the bone shows, caused, as regards its tissue, an increase in quantity at the expense of quality, a sacrifice, as it were, of development to growth. The affected bone, composed mainly of cancellated tissue with no medullary cavity, has, as it were, reverted to an earlier developmental stage.

With the increase in thickness there has also been an increase in the length of the bone, a partial gigantism. Similar cases have been described by Fournier and others, and it has

[1] Stigmates dystrophiques de l'hérédo-syphilis. Edmond Fournier. Paris, 1898.

been asserted that, as the result of hereditary syphilis, general gigantism may be brought about. Fournier gives several examples of publicly exhibited giants who were undoubtedly of syphilitic heredity. He also points out that dwarfishness can, on the other hand, be attributed often to hereditary syphilis, an illustration of what we often see in nature, viz., the same cause producing opposite results in different cases.

A further point of interest here is, as regards how the elongation of the bone has been brought about. As we all know, a bone is said to elongate by the formation of new bone and cartilage between the shaft and epiphyses. Certainly in our patient, dying at the age of eighteen, there was time left for elongation to take place at those points. But the microscopic examination of the shaft suggests that elongation must have taken place in it also. The same pathological change which led to an increase in the thickness of the shaft, with diminution in the size of the medullary cavity, must certainly also have led to its elongation.

Finally, whilst the usual effect of syphilitic or parasyphilitic constitutional conditions is, as regards bone, to cause an undue condensation rather than a replacement of its compact by cancellated tissue as in this case, it may be suggested that here we view the pathological process at one stage only. Had this boy lived a few years longer, we might have found this "rarified" bone becoming again compact bone, just as it had done at an earlier developmental stage. That is to say, we might have found development again supervening on growth. It is evident that in this case the amount of compact tissue would have been excessive.

Meeting X.—July 5, 1899

SIR JOHN BATTY TUKE, *President, in the Chair*

I. ELECTION OF MEMBER

Robert Black Purves, M.B., C.M., F.R.C.S.Ed., 17 Walker Street, Edinburgh, was elected an Ordinary Member of the Society.

II. EXHIBITION OF PATIENTS

1. *Mr H. J. Stiles* exhibited—

(*a*) Child, two months after operation for large HYDREN-