

and the following facts elucidated. Two years ago she had suffered from a severe attack of influenza when at Sheffield, at the time when this disease was manifesting a pandemic spread, during which she had run a high temperature for two to three weeks, accompanied by severe vomiting and hæmorrhages from the nose and mouth. Altogether she was in bed for five weeks, and had felt somewhat weak for a year afterwards. Last Christmas, when away in the country staying with her sister, who had returned from India after a prolonged attack of sprue, she had had another attack of fever, likewise diagnosed as influenza, starting with a high temperature and vomiting, which persisted for three or four days. A week after her recovery she was attacked with abdominal pain followed by diarrhoea with the passage of blood and mucus, which continued for nearly ten days before finally passing off; during this time the patient continued up and about, though feeling very weak. Since then she has had a slight degree of debility, and has been unable to take any violent exercise. It was thought possible that the patient might have been infected with an organism of the dysentery group from her sister, though the latter apparently never had anything to do with the preparation of the food in the house. To test this the serum of the patient was put up on Oct. 4th, the 16th day of her illness, against emulsions of *B. dysenteriae*, Flexner, V, W, X, Y, Z, and against one of *B. dysenteriae*, Shiga, but the agglutinations were all negative in a dilution of 1-50.

There yet remains the possibility that her sister may have been infected with the *B. enteritidis*, and from her Miss X had become infected with the resulting illness marked by abdominal pain and diarrhoea. Failing to rid herself entirely of the organism she had remained a carrier, and her recent illness might have been due to an exacerbation of the activity of this organism occurring while the patient was in a debilitated condition. Unfortunately, as her sister does not live in London it has not been possible as yet to procure a sample of her blood for examination, but if occasion offers this will certainly be done.

Summary.

(1) A case is reported of a patient suffering from pyrexia which simulated closely a typhoid course, but which was probably due to infection with the *B. enteritidis* of Gaertner. The case, moreover, was of a purely sporadic nature, and was unconnected with any co-existing outbreak of food-poisoning.

(2) It is suggested that it would be advisable in view of this case to test the sera of patients suffering from enteric-like infections against a more extended series of antigens than are commonly employed, in order to ascertain whether sporadic infections with organisms of the enteric group other than *B. typhosus*, *B. paratyphosus A*, and *B. paratyphosus B* are more than mere pathological entities.

It is with pleasure that we record our gratitude first of all to Dr. Fenton for his kind permission in allowing us to publish the case; secondly to Dr. W. W. C. Topley, director of the Institute of Pathology, Charing Cross Hospital Medical School, for giving us advice from his extensive bacteriological experience of cases of enteric infections; and, thirdly, to the clinical staff of the hospital for the help and facilities they afforded us.

References.—1. W. G. Savage: Report to the L.G.B. on Bacterial Food-poisoning and Food Infection, Food Reports No. 18, 1913. 2. F. A. Bainbridge: Milroy Lectures on Paratyphoid Fever and Meat-poisoning, THE LANCET, 1912, i., p. 849. 3. G. Dean: Journ. Hygiene, 1911, xi., p. 259. 4. G. S. Buchanan: Report on an Outbreak of Illness at Mansfield caused by Eating Potted Meat, Report of M.O. to L.G.B., 1896-97, p. 115. 5. W. G. Savage: Report upon the Presence of Paratyphoid Bacilli in Man, Report of M.O. to L.G.B., 1908-09, p. 316. 6. W. G. Savage: Food-poisoning and Food Infections, Camb. Univ. Press, 1920, p. 66. 7. Ibid., p. 48. 8. R. P. Garrow: The Myth of Atypical Enteric Infections, THE LANCET, 1920, ii., p. 886. 9. W. W. C. Topley, S. G. Platts, and C. G. Imrie: A Report on the Probable Proportion of Enteric Infections among Undiagnosed Febrile Cases Invalidated from the Western Front since October, 1916, Special Report Series, No. 48, Medical Research Committee, 1920. 10. Zwick, 1909: Über das Vorkommen von Enteritisbazillen in der Milch, Centralbl. f. Bakt., xlv., ref. Beiheft, p. 132. 11. Mohler and Buckley, 1902: Report on an Enzootic Among Cattle caused by a Bacillus of the Enteritidis Group, Nineteenth Annual Report of the Bureau of Annual Industry.

PSEUDO-COXALGIA:

OSTEO-CHONDRITIS DEFORMANS JUVENILIS.

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So little attention has been paid to the above affection in this country, except by orthopædic surgeons, that a brief description of what is known of the disease may be of interest, and may result in greater numbers of these cases being recognised and recorded. Since the appearance some ten years ago of the original papers dealing with the subject, by A. T. Legg in America, J. Calvé in France, and Perthes in Germany, little has been written on the subject in this country. Cases have been reported by R. C. Elmslie, D. P. D. Wilkie, H. H. Platt, E. M. Little, and the writer, while Mr. Muirhead Little published a short paper on this subject in the *Clinical Journal* in 1915. An exhaustive paper by Legg on the facts and theories to date may be found in *Surgery, Gynaecology, and Obstetrics* of the following year. The chief importance in recognising this condition lies in the difference between its prognosis and that of tuberculous hip disease, for which it is not uncommonly mistaken. Juvenile osteo-chondritis, which is by no means rare, affects children from 3½ to about 12 years of age, and males more commonly than females; it is usually unilateral, but may be bilateral.

Description of a Typical Case.

A healthy-looking child of, say, 6 years of age, of an active disposition and fond of games, begins to limp on one leg; perhaps there is a history of some antecedent fall on the hip, but not such as would raise a suspicion of any serious injury; the limp persists, and is accompanied by little or no pain.

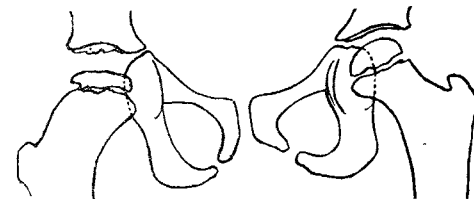


FIG. 1.—Tracing of skiagram of unilateral case of pseudo-coxalgia. Boy aged 5 years.

Eventually advice is sought, and examination reveals the following facts.

The position of the limb at rest is usually normal. There is slight wasting of the thigh and buttock, with resulting apparent prominence of the trochanter; some thickening of the neck of the femur, particularly on the inner side, may occasionally be felt; abduction of the hip is markedly limited or obliterated, while flexion remains free, almost, if not quite, to the normal limit; internal rotation and extension may be somewhat limited; at this stage there is no shortening, and rarely does the shortening amount to much. Trendelenburg's sign is usually positive. There is no pain on jarring the trochanter or heel. Skiagraphic examination reveals characteristic appearances; the epiphysis of the head of the femur is flattened from above downwards, irregular in outline and density, or even broken up into fragments; the epiphyseal line is less distinct than

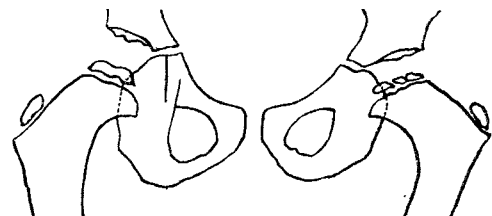


FIG. 2.—Tracing of skiagram of bilateral case of pseudo-coxalgia. Boy aged 6½ years. (Seen with Mr. O. Addison.)

it should be, as if invaded by calcified tissue from both epiphysis and neck; the juxta-epiphyseal region of the neck is irregular and fluffy, and there may be clear semi-transparent areas adjacent to the epiphyseal line, more commonly at the upper angle of the neck; on the lower side the neck is thickened; the joint space is not diminished, showing that the cartilaginous head is little, if at all, distorted, but that the changes are

rather in the ossific centre inside it; the pelvis may be asymmetrical, the affected side being slightly the smaller of the two; the acetabulum may show changes in the way of fluffiness and want of definition.

Progress, Treatment, and Aetiology.

The progress of the case is always towards recovery. Abscess formation and other complications seen in true hip disease never occur. Most writers agree in stating that treatment, or entire absence of treatment, has little, if any, effect on the ultimate result. Radiograms taken at intervals for one, two, or even three years show that after a time the ossification of the epiphysis returns to the normal, until at last the hemispherical shape of the ossific centre is restored. Finally, there may be some mushrooming of the head of the femur, so that the appearance would justify the diagnosis of one form of juvenile osteo-arthritis. The limp, usually slow in disappearing, is eventually lost. Spasm of muscles may occasionally be a feature in the early stages, when the diagnosis may be difficult. As a rule the diagnosis is easy.

Although treatment is said to have no effect, it is wiser to order a walking calliper splint to take the weight off the femur, while cases with an unusual amount of pain or spasm must be treated with complete rest and extension for a time. Muirhead Little advises abduction under anæsthesia and fixation in plaster, so that changes in the shape of the head that might limit abduction may be avoided.

As to the nature of the affection nothing definite is known. The theory which receives the greatest amount of support is that trauma produces damage to the blood-supply of the head of the femur, and that the changes in the ossification of the bone are secondary to this damage. Developmental error—as a predisposing if not the sole cause—local infection, and rickets have all been suggested in explanation of the appearances. Tubercle and syphilis can undoubtedly be ruled out of court. Suffice it to say that there are difficulties in the way of accepting the traumatic theory, but the discussion of this subject must be left for a subsequent publication elsewhere. Similar radiographic changes in an epiphysis are met with in other regions of the body.

A NOTE ON SPIROCHÆTES IN THE ÆTIOLOGY OF CERTAIN PARALYSES.

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AT the suggestion of Professor E. E. Moravcsik, M.D., I started research in the parasitology and pathological tissues of general paralysis of the insane, at the Psychological and Neurological Clinic of the Royal Hungarian University of Budapest, soon after the publication of Noguchi's researches. The outbreak of war prevented me continuing this work, but I was able to resume it at the end of 1918. I include in this short contribution my more important observations on the presence of spirochætes in the central nervous system, before publishing a longer description of the cases treated in this clinic in view of their parasitological, clinical, and therapeutical applications. I also take the opportunity of reporting an interesting diagnosis in a case of disseminated sclerosis.

Levaditi, Marie, Bunkowsky, Moore before Jahnel, later Hauptmann have shown the presence of spirochætes in large quantities in the cortex of patients suffering from G.P.I. with paroxysms; they regarded the paroxysms as due to mechanical and toxic effects of the sudden increase of spirochætes. During my researches I have noticed that the spirochætes are situated chiefly in the lower strata of the cortex, sometimes in such quantity as to show almost a pure culture. This was noticed not only in cases of G.P.I. with paroxysms, but also in those without. In eight cases of G.P.I. the main colonies were in the boundary of the cortex and the medullary substance, and in the lowest strata of the cortex; this was so, not only when the spirochætes were localised, but when

diffused over the whole area of the cortex. It is difficult to say without further research whether the spirochætes are permanently localised in these strata, because their dissemination is prevented by some means, or because the circulatory or microchemical environment is favourable. Some observations convinced me of the pathological and clinical importance of the boundary of the cortex and the medullary substance. In certain cases of disseminated sclerosis the sclerotic spots are mostly on this boundary. I found, as did Siemerling, in an acute and in a chronic case that the disintegration of the medullary sheath was situated underneath the cortex and in the lower boundary of the cortex. In cases of diffuse sclerosis and peraxial sclerosis (Rossolimo, Angyan,



FIG. 1.—Heterotopia in disseminated sclerosis.

Schilder) the spots of disintegration of the medullary sheath were immediately underneath the cortex, also overspreading some areas of the cortex; disintegration of the medullary sheath in the cases of G.P.I. (which were similar to those in disseminated sclerosis) was also to be seen on the boundary of the cortex and medulla, as was shown by Siemerling, Spielmeyer, Borda, and Fischer. These observations show that there are certain places in the central nervous system which have microchemical properties of importance in the ætiology of G.P.I.; in regard to the parasitological aspect the lower strata of the cortex seems to have microchemical affinity with the spirochætes.

The spirochætes appear in largest quantity in this place, and the so-called degenerative forms are mostly in the upper strata of the cortex. In an interesting case of disseminated sclerosis I found fine spirochætes diffusely spread in the upper strata of the cortex. (Figs. 1 and 2.) This diagnosis



FIG. 2.—Spirochætes in the cortex of a case of disseminated sclerosis.

shows an affinity between disseminated sclerosis and G.P.I. in regard to ætiology; the gold sol reaction of the cerebro-spinal fluid is similar in disseminated sclerosis, in G.P.I., and in cerebral syphilis; it is probable that the spirochætes found by Kuhn and Steiner are a similar kind to the *S. pallida*. It was impossible to show spirochætes in the brain of patients suffering from G.P.I. in those cases when 10 per cent. formalin was injected into the brain through the carotids two hours after death. I thought I should be able in this way to fix the spirochætes thoroughly and instantaneously around the veins, but either the formalin stream carried off the spirochætes or they did not happen to be present in that part of the tissue examined. If, indeed, the formalin stream carries off the spirochætes this would be a favourable fact from the therapeutic point of view. We cannot yet judge the results of the carotid injections made by Knauer. It is