

only one case, No. 13, was any history of a previous attack of scarlet fever obtainable. This patient, a nurse, had been sent to the Coast Hospital as suffering from measles about one year previously. After admission there her illness had been diagnosed as scarlet fever, but, in view of her reaction to the Dick test, the original diagnosis appears to have been the more likely.

2. Nine adults (60%) gave a Dick reaction, but only four children (20%) manifested this phenomenon. This latter fact appears contradictory to the results obtained by other workers, but the total number tested was very small and calls for further investigations. Exactly the same technique and material were used in all cases. Perhaps the amount injected was too large for a child.

3. Every person (twelve) who received the antiserum, failed to react to the Dick test forty-eight hours after its injection. Six persons (50%) failed again to react ten days afterwards, whilst three gave a weak reaction only. Four persons (33%) still gave no reaction after seventeen days had elapsed, while one patient gave no reaction to a Dick test carried out thirty days after the injection of the antitoxin. It would thus appear that the dose of five cubic centimetres of this particular antiserum was sufficient to produce a passive immunity for seven to ten days only.

4. Serum rashes of an urticarial character, both local and generalized, occurred in four cases, despite the use of concentrated serum. They rapidly disappeared after the injection of *liquor adrenalini hydrochloridi* intramuscularly.

5. No further cases of scarlet fever occurred among the nurses, nor did any of the children develop rashes, so that whether due to the use of the antiserum or not, the measures taken to prevent an epidemic were successful.

Bibliography.

1. E. H. Harris, Dorothy Hervey and Vera Fellowes: "The Prophylactic Value of Scarlet Fever Antitoxin," *The British Medical Journal*, May 22, 1926, page 864.

2. Helen Kelsey: "Some Observations on the Dick Test and on the Value of the Prophylactic Use of Scarlet Fever Antitoxin," *THE MEDICAL JOURNAL OF AUSTRALIA*, October 30, 1926, page 578.

PERTHES'S DISEASE.

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I WAS interested to read in the journal of May 21, 1927, a report of three cases of Perthes's disease by Doctors Allan Pryde and W. P. Holman. I would like to report a case which came under my care in which the history of trauma to the affected hip antedated the occurrence of the limp in exactly a similar manner to the three cases quoted above.

A boy, aged seven years, was brought by his mother who said he had fallen from a bicycle and bruised his right hip nine months previously. He had had a persistent limp ever since, although he did not complain of pain in the joint or leg on walking.

On examination there was a prominence of the trochanter on the affected side as compared with the other side and less than 1.25 (half an inch) shortening in the leg. Flexion and extension of the hip joint was normal in range and painless. There was definite limitation of abduction with some limitation of internal rotation of the affected thigh. Two separate von Pirquet tests were done each with human and bovine tuberculin at an interval of a week between each test and in neither instance did a reaction occur. Two radiograms showed very typical pictures of Perthes's disease. The centre of ossification in the head of the femur was flattened and fragmented into several pieces. The neck of the femur was shortened and thickened. There was also some blurring in outline of the acetabulum.

There appears to be very little doubt, judging from the histories of the three cases reported by Doctors Pryde

and Holman and from my case that trauma to the affected hip was an ætiological factor, although Lawford Knaggs in his last edition of "Inflammatory and Toxic Diseases of Bone" states that a history of trauma is exceptional and the ætiological importance of trauma is very doubtful. Although the ultimate prognosis is apparently good in the great majority of cases, treatment does not appear to have been successful in cutting short the course of the disease. As the cause is apparently a staphylococcal infection of the nucleus of ossification in the femoral head, I wonder if treatment with stock or autogenous vaccines has been tried to any extent. The literature at my disposal gives practically no information on this point.

RAT BITE FEVER IN NEW GUINEA.

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RELAPSING fevers, including tick fever and rat bite fever, have attracted considerable attention of late and the latter has been reported from many countries including Australia. The presence of the parasites of both relapsing fever and of rat bite fever has also been described lately from New Caledonia.¹

In New Guinea recently a young male European was attacked by a disorder which presented some of the characteristics common to relapsing fever, tick paralysis and rat bite fever, and which proved finally to be rat bite fever subsequent to the bite of a flying squirrel.

On January 14, 1927, the writer was called to see the patient who had on December 30, 1926, been sent in to the Namanula Hospital, Rabaul, New Britain, after having had treatment for a time at Madang, New Guinea, the town at which the disorder originated.

It had at first been presumed that the trouble was a refractory form of malaria and quinine treatment both oral and intravenous had been pushed.

Clinical History.

The history was as follows:

I.L.R.C., aged twenty-six years, white, male, a works superintendent, was admitted on December 30, 1926. The patient had arrived in New Guinea twenty months previously, had at once contracted malaria (May, 1925). After several slight remissions he had had no fever or other illness until October, 1926, when, while stationed at Madang, he had several slight attacks of "low fever." He was living at the time in a house infested with ticks and considered unhealthy, previous residents having had much "fever" while in occupancy. Dogs in the house invariably became tick-infested and about November one died of tick paralysis. Several others that frequented the place were in very poor condition.

On December 1, 1926, he was feeling "off colour" and remained so for ten days, until on December 9, 1926, he became definitely ill and called in a medical officer who admitted him to Madang Hospital.

At Madang Hospital.

At that time he was not "over-bad," but complained of malaise, anorexia, constipation, slight headache, abdominal tenderness over liver and spleen, aching limbs (especially the legs) and stiffness and weakness of the arms and legs with definite difficulty in standing and walking. The knee jerks were absent and there was definite paresis. His temperature was found to be 39.4° C. (103° F.) and a blood slide was found strongly positive for subtertian malaria (rings) on December 9, 1926, and again on December 12, 1926.

He received intravenous injections of quinine bihydrochloride one gramme (fifteen grains) and subsequently oral doses of quinine totalling two grammes daily, but his temperature failed to react satisfactorily, falling im-

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pricks" and was forgotten in a day or two. On November 21, 1926, however, the thumb "festered" and turned a bluish-red in colour and areas of lymphangitis appeared in four places above the wrist, over the middle of the forearm, about the level of the epicondylar gland and finally on the inner arm at the level of the insertion of the coracobrachialis muscle. A lymphangitic streak joined all four and the thumb, but the glands in the axilla were not painful or tender.

The thumb was incised at Madang on December 26, 1926, no pus being found and the condition gradually resolved. At the time the patient was admitted at Rabaul, there were no signs of trouble in the thumb and there had been no recurrences.

With this new evidence and the presence of the scanty organisms leptospiral in appearance and size the diagnosis was thought to be no longer in doubt and the condition was recorded as rat bite fever.

Comment.

The symptoms of rat bite fever which follow bites by infected rats, cats, weasels *et cetera* very closely resemble those of true tick-borne relapsing fever. Usually there is here also a well defined bluish-red exanthem, the lymph glands and vessels are largely involved and at the time of onset the original site of the bite becomes again tender and inflamed with areas of superficial lymphangitis. There is also a definite eosinophilia, the urine contains albumin and casts and there are rapid emaciation and anæmia; nervous symptoms are noted, among which latter it is observed that from the beginning the knee jerks are exaggerated.

In the case under review there were certain important departures from the classical symptoms laid down. The first important one was the absence of knee jerks and the definite paresis of the legs; the next one was the absence of any kidney signs and of the so-called typical exanthem; finally the onset did not coincide with the lymphangitis of the thumb, but followed it eighteen days later.

Injections of "Novarsenobenzol" 0.45 gramme were instituted on January 25, 1927, and repeated 0.6 gramme on January 28 and February 1, 1927.

The patient improved at once, though the first injection was too late to abort the relapse on January 26, 1927.

No further rises of temperature occurred, however, and he was discharged well on February 5, 1927, two further injections being subsequently given to confirm the cure.

To the best of the writer's knowledge the marsupial flying squirrel has never previously been incriminated as a carrier of infective spirilla of rat bite fever. If this case actually was an instance of that disease, it therefore adds this animal to the company of cat, weasel, rat *et cetera*.

The feature of outstanding interest to the writer, is that the case illustrates the essential similarity of rat bite fever and tick-borne fever, which might even be regarded as the same disease modified possibly by the nature of the carrier.

Finally, a point of considerable interest to Australians is the definite occurrence in this case of paresis of the legs with loss of knee jerks, similar to the cases of tick paralysis seen in Queensland.

Acknowledgments.

The writer has to express his indebtedness to Dr. Ian Mackerras, of the Bureau of Microbiology of Sydney, who has permitted him to peruse a paper on tick fever by him, containing an excellent list of the available literature on this subject.

It is hoped that Dr. Mackerras will shortly publish this valuable contribution for the benefit of the workers in this and related subjects.

Reference.

A. Morin and J. Genevray: "Présence en Nouvelle-Calédonie de *Spirillum morsus muris* et de *Spirochæta recurrentis*." Bull. Soc. Path. Exot., 1926, July 7, 1926, Volume XIX, Number 7, pages 529-532.

XANTHOMA OF THE LEFT KNEE AND HEEL.

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MRS S., aged thirty-one years, consulted me for two swellings which she had noticed for the past twenty-one years. She had never had any previous medical advice about them, but as one near the heel was beginning to get painful, she thought she had better see about them.

The "lumps" had never been painful before and had never given her the slightest trouble except when she had knocked them. A mass situated near the knee had not increased in size, but one near the heel had increased in the last two and a half years to not more than one-quarter above its original size. The patient thought that it had increased much more in the previous three weeks than at any time previously. She had also noticed that it seemed to be becoming more shiny and red as though it was "becoming inflamed."

On examination the mass near the knee was found to be hard, attached to the skin, not freely movable, but apparently not connected with the subjacent bone and not cystic. It was situated just below the inferior border of the patella in the mid-line.

The mass at the heel was situated at the junction of the *tendo Achillis* with the bone and prolonged above that point about 6.25 centimetres (three inches). It was an oval-shaped mass, also hard, not freely movable, not cystic and apparently free from the subjacent bone. The mass at the knee was about the size of an unripe blood plum and of something like the same consistency. The mass at the heel was firmer if anything and about 6.25 centimetres (three inches) long by five centimetres (two inches) wide and perhaps 2.5 centimetres (one inch) in depth.

The patient was advised to have the masses removed and to have them submitted to microscopical examination. She was operated on at the Auburn District Hospital on May 24, 1927, when the following condition was found. The mass at the knee was shelled out without undue difficulty, the skin being loosely attached to it, but it was free from all the structures surrounding it.

The tumour at the heel was, however, found to be connected intimately with the *tendo Achillis*. It was indeed so closely bound up with it that we were unable to separate it from the tendon structure at all. It was decided to take as much of the tumour with as little of the tendon as possible. The whole mass was split across from side to side, leaving a fairly thick strip of fleshy and tendinous tissue to serve as the *tendo Achillis*. The most superficial of the two strips was then carefully dissected away from the surrounding tissue and removed. A layer of tendon sheath which had been opened originally, was then sewn over the remainder which had been left, and the wound was closed in the usual way. It healed without incident and the patient is now at home walking without any difficulty.

The Microbiological Laboratory reports as follows:

Sections of both pieces of tissue show a fibrous stroma containing groups of large polyhedral cells with foamy cytoplasm and small eccentric nuclei. There are in some areas masses of large rhombic spaces from which crystals, probably cholesterol, have been dissolved out. In other areas there is fairly extensive yellowish pigmentation of the cells and associated with the crystals are multinucleated giant cells of foreign body type; these also show pigmentation.

The growths are xanthomata. These tumours frequently occur in association with diabetes. We would be grateful for information as to the presence or absence of glycosuria.

I thought the above case of sufficient rarity and interest to report it and must also express my indebtedness to the Board of Health for its report and to Drs. J. J. McIntosh and J. A. Lawson for their assistance and for their permission to publish these notes.