A CASE OF POST-VACCINAL ENCEPHALITIS IN BRITISH GUIANA.

BY

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The following is, I believe, the only case of post-vaccinal encephalitis reported from the tropics.

P., a white girl of 15 years of age, was vaccinated in Georgetown, the capital of British Guiana, on 7th May, 1928, with lymph obtained from the Lister Institute. Her parents came of the best families in the Colony, and she was a highly-strung, nervous child, very much given to passionate outbursts of temper. She was very bright and intelligent, and had within the preceding year won the most important scholarship for girls in British Guiana. There were two other girls and a boy in the family, of which the patient was the eldest. Another sister had died in 1921 of splenomedullary leukaemia. Both parents were healthy, and so also were the other children. The patient played the usual girls' games, and was an enthusiastic Girl Guide. Her past illnesses were (a) pleurisy without effusion ten years ago, (b) fractured clavicle, (c) abscess in neck. The two latter occurred more than five years ago, and the neck abscess was not regarded as being tubercular.

Her sister N., aged 12, was vaccinated at the same time, but from a different tube of lymph. P., who was menstruating at the time, objected strongly to being vaccinated, but was eventually persuaded to be done. Both children had severe local, but slight general, reactions, and were not seen by me until 16th May, 1928, when the mother was anxious about the appearance of their arms. The children were in bed, and had been so ever since the day after the vaccination; they had taken their food indifferently, but otherwise they complained of little but very painful arms and slight fever. Neither child then showed any involvement of the nervous system. Each had four large, inflamed, tense areas over the left deltoid muscle in the upper arm, and the marks of the original vaccination of 7th May, 1928, were still present. They were each criss-cross, and were made up of four cuts, each \( \frac{3}{4} \) in. long, intersecting four similar cuts at right angles. The centre of each inflamed area was filled with black altered blood. There was never at any time any pus in the wounds, which remained clean throughout.

On 18th May, P. complained of a swinging in her head, and vomited after some milk. On the 19th the swinging feeling persisted, and she vomited again
after a Seidlitz powder; that morning, also, her mother noticed that she was unusually drowsy, and would sleep almost immediately after a conversation. Late that afternoon she was definitely semi-conscious, but could be roused by a painful stimulus, such as squeezing the tendon Achillis. There was slight downward progress on that day.

Next day (20th May) she was quite unconscious, and nothing would rouse her. Her medical attendant reported the chest to be clear, and there was nothing to be felt in the abdomen. She was incontinent of urine and faeces. There was nothing definite about her decubitus, and she would lie where she was placed. Her head did not take up any particular position, nor were her eyes directed in any fixed manner. The pupils were equal, circular, of moderate size, and reacted at once to light. She maintained both forearms flexed upon the upper arm, the left being more flexed than the right, as if to protect the inflamed areas. There was no knee jerk obtainable, nor was there any rigidity of the lower limbs. The left plantar reflex was briskly extensor, the great toe being drawn up to full extension on the slightest stimulation of the outer portion of the sole of the foot; the right plantar reflex was flexor.

On the same day her temperature began to rise, and reached 100° F., with a pulse rate of 120. She would at times give a sighing respiration, and such was the strength of the contraction of the flexor muscles of her forearms that it was almost impossible to straighten either arm at the elbow. There were never any spasms or neck rigidity or kőenig sign.

On the 21st May her temperature rose to 102° F., with a pulse rate of 130, and by now she was considerably weaker. A chest examination still revealed nothing, and the reflexes were the same as on the previous day.

On the 22nd May, by 4.30 a.m., her appearance and the character of her respiration had changed to such an extent that she was obviously dying. At that time the respiration, which before was 30 per minute, had risen to over 40, and the temperature was 104° F. By 7.30 a.m. the temperature was 105° F., and was never taken again. She died at 12.30 p.m., on 22nd May, 1928.

No blood or cerebrospinal fluid or postmortem examinations were made.

A urine examination on 20th May showed a slight degree of albuminuria, which could be accounted for by her fever.

The sister N. had no manifestations whatever of involvement of the nervous system, and soon recovered completely. A tube of lymph from the same batch was sent back to England and examined by Professor J. C. G. Ledingham, F.R.S.; the findings were negative.

The above case notes were forwarded by the kindness of Dr. Andrew Balfour to Dr. F. R. Blaxall, Director of the Government Lymph Establishment at Hendon, to whom I am indebted both for the diagnosis and also for information upon the literature of the disease.