On referring to the table showing the diphtheria mortality for the three colonies, and for England and Wales for the last fifteen years there will be found, I think, evidence that this statement does not hold good of the metropolis alone. When we consider that a fall of 10 per 100,000 in the annual mortality of diphtheria—a much smaller fall than might be expected from the experience of the Australian colonies—would, in a population of 30 millions, mean the annual saving of 3,000 children from a cruel and painful death, I think we are justified in pressing the results obtained in these Colonies on the attention of our professional brethren in the mother country.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, 1889, 1, p. 197.

CASE OF SNAKEBITE TREATED WITH CALMETTE'S "ANTIVENENE SERUM:" RECOVERY.

By MAJOR S. J. RENNIE, R.A.M.C.,
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History.

MORADI, a Hindu boy, aged 12, was brought to me about 6 P.M. on July 10th in a semicomatose condition, and with all the symptoms of bite from a colubrine snake fully developed; in fact, the case was in such an advanced stage that paralysis of the respiratory muscles was just commencing. The history given was "that the boy was sleeping on the ground in the early morning, when he felt something bite him on the little finger of the left hand. Being very drowsy, he simply shook off the offender, without even looking at it, and went off to sleep again. He was soon, however, awakened by pain and stiffness in his arm, and complained of vertigo. First the limb and then the body began to swell, which was followed by complete paralysis of the whole of the left side and blindness in both eyes, after which he slowly sank into a state of semiconsciousness"—which was his condition when brought to me.

On examination, two small punctured wounds were detected on the back of the third phalanx of the left little finger, which, judging from their appearance, had been inflicted by a reptile some 12 or 18 inches long—probably the well-known krait (*Bungarus ceruleus*). The arm, face, left side, thorax, and throat were oedematous, and there was complete paralysis of the left side of the body. The eyeballs were protruded and staring, with ptosis of both eyelids. Sanious froth was bubbling from his mouth, and the glottis was evidently obstructed, as the breathing was laboured and stertorous and deglutition impossible. The pulse was 110 and dicrotic; the respirations 25 and entirely abdominal in character; the surface of the body was cold and covered with clammy perspiration. He could be slightly roused with difficulty, but soon sank again into a state of lethargy and collapse. His condition was very grave and apparently hopeless.

Treatment.

I at once injected 12 c.cm. of Calmette's antivenene serum hypodermically, and also gave enemata of brandy and beef-tea. The case was so far advanced that it was useless attempting the local treatment of the wound with the chloride of gold solution, as recommended by Calmette. For the next fifteen minutes the patient's condition remained much the same, when the paralysis of the respiratory muscles, which had been slowly coming on, became fully developed, and he ceased to breathe altogether. The pulse beats were now only 4 a minute; each individual beat hard and "hammer-like" at first, but getting more and more faint as the heart's action slowly ceased. I immediately commenced artificial respiration, and kept it up for half an hour, by which time the serum had done its work and the boy had regained power over his respiratory muscles. I also at the same time injected $\frac{1}{5}$ gr. strychnine hypodermically as a cardiac and nerve stimulant. As soon as the breathing was restored the brandy and beef-tea enemata were continued.

From this time he made a rapid and uninterrupted recovery, the symptoms disappearing in the inverse order to their onset. In forty-eight hours the oedema and paralysis of the limbs, and the blindness were completely gone, and he is now as well as ever he was in his life. A curious fact was that it

left him with diplopia of his left eye for several days, but this has also quite disappeared. The after-treatment consisted in small doses of strychnine, with stimulants and bark; and plenty of nourishing diet, with port wine.

REMARKS.

That we have in Calmette's antivenene serum a most powerful remedy against the bites of venomous reptiles has been fully proved both in the laboratory, and also, in a few instances, in actual practice. In the year 1896 it fell to my lot to treat the first case in which this serum was used in India, which was detailed at the time in the columns of this JOURNAL, and since then other successful cases have been reported. The case under consideration is, however, of especial interest, in that it proves, first, that no matter how acute the symptoms, or how far advanced the effects of the poison, it is never too late to use the antidote; for, as will have been noted, the boy, in this instance, was, to all intents and purposes, dead at one time; and, secondly, that the "antivenene" will keep for an almost indefinite period, and exposed to all vicissitudes of climate, as I had the serum used in this case in my possession in the plains of India for nearly four years.

A CASE OF CEREBRO-SPINAL FEVER IN INDIA, WITH BACTERIOLOGICAL EXAMINATION.

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At the Tropical Section of the British Medical Association meeting in 1898, there was read for me a paper on Cerebro-spinal Fever in India.¹ In this paper, besides sketching the history of the disease in India, I gave three cases, in one of which I described the finding of the diplococcus intracellularis. This, I believe, was the first time that this organism had been isolated in any case of this disease in India. Since then I have met with a few other cases, and in the case briefly described herewith I am able to announce the finding of the diplococcus again, the finding being confirmed by Major F. C. Drury, I.M.S., Professor of Pathology at the Calcutta Medical College. The case is briefly as follows:

Prisoner No. 654, aged 32, employed as a cook, over two months in gaol, was admitted to the hospital of the Bhagalpur Central Prison on August 21st, 1899, with fever (102° F.) and headache. He soon became unconscious, and passed thin stools involuntarily into the bed. The pupils were contracted. The pulse was only 90. At 5 P.M. he was still unconscious, and the conjunctivæ were much injected. On the next day the temperature was 100° F., the pulse 86, and the patient was conscious. He complained greatly of intense pain over the back of the neck and upper part of the spine as well as over the forehead. He was very restless. The urine had a specific gravity of 1030, and contained neither sugar nor albumen. There was strong flexor spasm of the leg muscles, and the head was drawn back markedly. There was no paralysis. On this day Kernig's symptom was demonstrated very clearly and distinctly, and contrasted with patients suffering from other diseases in another ward. In the cerebro-spinal case, when the patient sat up or when the thigh was flexed on the abdomen extension of the leg was impossible owing to the strong spasm of the flexors. The same day lumbar puncture was done, and about 1 drachm of turbid fluid was drawn off from the canal. This was examined and the diplococcus found within the pus cells, thus confirming the diagnosis. The case ran a rapid course, internal strabismus and left facial paralysis soon appeared, with retention of urine and herpes on the lips, and the patient died in an unconscious condition at the beginning of the fifth day of illness.

The necropsy was done four hours after death. The body organs generally were healthy. The brain was covered with fine leptomeningitis, and the base of the brain, the cerebellum, the medulla, and the first four inches of the spinal cord (all that was examined) were covered with thick flaky lymph, involving all the roots of the cranial nerves. I examined specimens of the lymph and cerebro-spinal fluid, and found the diplococci in large numbers within the cells. Specimens were at once sent to Major Drury, I.M.S., Professor of Pathology at the Medical College of Calcutta, who kindly examined them and made cultures. He reported that he found the diplococci in large numbers within the cells, both in the turbid fluid and in the purulent lymph, and cultivations on agar showed the diplococci in abundance in almost pure cultures. This case was the first in this gaol for the past sixteen months; about sixteen months previously there had been in three months 9 cases with 5 deaths. No possible source