A CASE OF ERYSIPELAS OF THE SCALP WITH A REMARKABLE NERVOUS SEQUELA.

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THE HISTORY OF THE CASE.

THE patient, a youth, aged 17, was first an inmate of St. Mary's Hospital under Dr. Cheadle, later he was transferred to the Chelsea and Willesden Infirmaries, and finally was admitted under Sir William Gowers to the National Hospital, Queen Square.

I am indebted to the kindness of Dr. Cheadle and Sir William Gowers for leave to make use of the notes that were taken while he was under their care, and to the courtesy of the Superintendents at the two Infirmaries for information as to his condition during that period of his illness.

The duration of the illness was a long one, extending from October 20, 1897, to April 14, 1899, and it so happened that I was able to keep in touch with him throughout, and to follow his subsequent history.

E. R., aged 17, was admitted to St. Mary's Hospital upon October 20, 1897, complaining of giddiness and pain in his head and back. The illness had commenced quite suddenly three days previously, and he took to his bed the day before admission. The only fact that suggested a cause was that his mother had recently returned from a London fever hospital convalescent from an attack of scarlet fever. This raised the suspicion that the dwelling house was insanitary. He was very ill, the temperature 104°, pulse 102 per minute, respirations 30. The tongue was thickly

coated, and the bowels were constipated. Though quite sensible the least movement pained him, and he lay curled up on his side, with the eyelids closed. The aspect was pale and anxious, and the patient complained bitterly of pain in the head, in addition to which there was occasional vomiting. Some enlarged glands were detected behind the left ear, and the veins over the left side of the forehead were prominent and distended. There was no membrane upon the throat, no scarlet redness or rash upon the chest, nor did the condition of the other systems throw any light upon the condition.

Later in the day exquisite tenderness developed over the head; this was more marked upon the left side than the right, and with it there was also some tenderness down the left side of the neck. There was slight double optic neuritis, but there were no ocular palsies and the pupils reacted to light and accommodation. The tympanic membranes were quite healthy. The next day the symptoms remained much the same, except that the tenderness over the head became more general. The knee-jerks were tested several times and were never obtained. Upon October 23 a dull flush appeared upon the forehead spreading from the hair line, and the skin in this region was œdematous. The next day it was clear that he was suffering from a severe attack of erysipelas of the scalp, and from blood obtained from the spreading margin I obtained a pure culture of streptococci. Antistreptococcin in 10 cc. doses was injected upon the 26th and 27th. At this time the patient's condition was perilous. His face was now greatly swollen, the mental condition dull, and the temperature oscillating between 104° and 106° . Upon October 29 there was a crisis, the temperature fell to 99° , and desquamation commenced upon the face. After a slight relapse the temperature fell to normal upon November 4. From this date there was a steady improvement, and by the end of the month he was able to sit upon a chair, and in December was able to walk and was apparently convalescent.

In the second week of this month a curious change took place: his appetite failed and the bowels became constipated,

the temperature did not, however, rise. He became very irritable, was morose even to his friends and complained that his legs gave way suddenly letting him fall. There was no loss of consciousness. The change was so marked that he was compelled to take to his bed. Headache and vomiting now resumed, and at times he was very drowsy. The knee-jerks were now active and presented that peculiar oscillation which is seen not infrequently in chorea: there was no ankle clonus. In the middle of January there were sudden unexplained rises of temperature to 101° , the bowels remained obstinately constipated, and for the first time there was retention of urine. Both lower extremities were weak and he was unable to support his weight. The grasp was also weak on both sides. Sensation was blunted over the lower extremities, but not lost. The respiration was sighing. Pain had been complained of in the back, but it was not accurately localised, and there was no localised tenderness. Upon January 20 there was incontinence of urine. He remained in the hospital until April in much the same condition, completely bedridden, with retention varied with incontinence of urine. The lower limbs, though they could not be raised from the bed, were not spastic, nor had they wasted to any marked extent.

After leaving the hospital he was an inmate of the Willesden and Chelsea Infirmaries. Through the courtesy of the Superintendents information was obtained of his condition during this period, of which the following is a summary. He remained in very much the same helpless state, getting at first if anything rather worse, for the legs became weaker and the incontinence of urine more frequent, and in addition there was an occasional girdle pain. Towards the end of 1898 he began to improve, the legs becoming stronger.

Upon March 1, 1899, he was admitted to the National Hospital under Sir William Gowers, and for the following notes I am indebted to Dr. Edwin Bramwell, at that time the junior house physician. He was thin, his manner depressed, but intelligence good. There was some lateral nystagmus. The fingers moved well and equally, but there

was some slight weakness of the muscles of the arm and forearm upon the right side. The movements of the upper limbs were shaky and suggestive of the intention tremor of disseminated sclerosis. The handwriting was very shaky.

The abdominal muscles were weak. He was unable to raise his legs off the bed and no movement could be made at the knee or ankle joint, yet slight interrupted movements of the muscles were noticeable when movement was attempted. The toes were moved rhythmically some three to four seconds after the suggestion was made. The legs were thin; there was no rigidity. Sensation was also altered, thus there was loss of muscular sense in the right arm, and diminished sensibility to touch and pain up to the fifth rib, and analgesia to the seventh. The upper extremities were not anæsthetic. The knee-jerks were increased, but there was no ankle clonus. The plantar reflex was absent at first, but later there was a flexor response. Incontinence of urine was the rule varied by occasional retention, and the patient stated that he was sometimes aware when the urine was passed, but had no control. The urine contained pus. The bowels were constipated, but sometimes moved without his knowledge. There were no bed sores. The bladder was washed out daily, and strong faradism applied to the legs. Improvement was almost immediate. Upon March 12 there was an unaccountable rise of temperature to 103°. Upon the 18th he was so much better that the incontinence of urine had all but ceased. Upon the 21st he had complete control and could actually walk a few steps. He left the hospital upon April 14 and could then walk a mile.

After leaving the National Hospital he went to a convalescent home and returned quite strong and well. Later in the year he showed himself to Dr. Cheadle in capital health. In the autumn of 1899, he came to see me in answer to a note, and was then in robust health. His appearance had much altered, he was stout with a good colour, quite strong on his legs and with no urinary troubles at all. The knee-jerks were natural.

Thus after an illness extending from October 20, 1897, to April 14, 1899, during the greater part of which time the

patient had been bedridden, there resulted a complete recovery.

This case presents several points of interest both practical and theoretical. From the point of view of treatment, it furnishes a proof of the value of persistent and assiduous care in a condition which, on more than one occasion, looked anything but promising. If this patient had gone home early in the illness, there is little doubt that the cystitis, which even with care did eventually make its appearance, would have arisen earlier, have been more severe and would have caused irreparable damage to the kidneys.

The use of the antistreptococcic serum was rapidly followed by the termination of the acute attack, but from personal observation I do not feel convinced that this was anything but the natural crisis which would have occurred irrespective of the use of the serum.

The rapid success attending the use of strong faradism was a signal proof of the value of this method in suitably chosen conditions.

The injury to the mechanism of the bladder was another remarkable feature of this case. For a long while there was almost complete incontinence, and yet the result was recovery and complete control. The symptom-complex at the time that there was incontinence was unusual, for the lower extremities, though weak, had not wasted more than could be accounted for by disease, and the knee-jerks were more than usually active. On the other hand, when there was retention of urine there was never any rigidity of the lower limbs, nor ankle clonus. The condition was a marked contrast to that intensely organic affection of the cord, anterior poliomyelitis, in which with severe flaccid paralysis of the lower extremities the sphincters as a rule escape.

How much of this illness was functional, in the sense that it was dependent upon lack of will power on the part of the patient, is a difficult question to answer. The severe implication of the bladder certainly seemed to point to an organic lesion of some severity, and to a bad prognosis,

and even when recovery occurred, there still remained the doubt as to whether this was only temporary, and not, as has proved to be the case, permanent.

The explanation of the cause of this sequela is to a great extent a matter of hypothesis. It is not at all likely that the condition could have been produced by the injections of anti-toxin, though we cannot lose sight of the fact that this serum was used upon two occasions.

The stages through which the illness passed were firstly that of the acute local infection, to which no doubt the severe cerebral symptoms at the outset were due; then a period of improvement, which almost reached the point of recovery, next a gradual mental deterioration rapidly followed by the appearance of paralytic symptoms; fourthly a prolonged stationary period, and lastly, a stage of rapid recovery.

The primary infection may have damaged the brain considerably, and the gradual development of the new train of symptoms after a latent interval resembles in this respect that occasional sequel of a brain shock or injury—chronic traumatic neurasthenia. In this case the local infection would take the place of the more gross mechanical injury.

It is also possible that this sequela was the direct result of the virus of the erysipelas which persisted in an attenuated or altered state. Much light has been thrown by neurologists upon the occurrence of nervous symptoms as an after-result, proximate or remote, of acute infections, and the question is one of far-reaching importance. Now that almost each year we are confronted with new micro-organisms, each looked upon as the specific cause of some particular disease, the complexity of the bacteriological problem is becoming very apparent. A survey of the group of coccal infections well illustrates this difficulty. There are the streptococci and the staphylococci, the diplococci of pneumonia and rheumatic fever, of scarlet fever and cerebro-spinal meningitis. There is the gonococcus and the diplococcus described by Still in posterior basic meningitis. Morphology alone can hardly be expected to distinguish them, much less any method of staining, and it seems that chemical pathology by a study of the poisons that are produced and the re-

actions that are called out will eventually afford the means of differentiating these processes.

Nervous disturbances resulting from infections are of such interest because they are to some extent a clinical expression of these subtle chemical processes. If this case be looked upon as an example of this kind then it is a fortunate one, because the organism was isolated at the commencement of the illness and the patient under observation throughout its entire course.