NEURO-SYPHILIS WITH SEVERE LARYNGEAL CRISIS: TRACHEOTOMY.

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CONSIDERATION of the symptoms presented in the case here reported points to an irritative cortical lesion as the most likely cause of the severe laryngeal crisis. The experiments of Krause, Semon, and Horsley have shown that there is a centre for adduction of the vocal cords in each cerebral hemisphere at the anterior part of the lower end of the ascending frontal convolution. Irritation of either centre results in adduction of both cords, while abduction though represented is more difficult to produce, and is rather governed from the lower centres in the floor of the fourth ventricle.

A pensicner, aged 35, was admitted about 3 a.m. on January 15th, 1922, as an urgent case suffering from respiratory embarrassment and cyanosis, having been found in this condition by the police. I saw him first about 8.15 a.m., in response to an urgent call, as his symptoms were becoming worse. He was then propped with pillows in bed in a semi-recumbent position, had a haggard and anxious expression, and looked seriously ill. The pulse was regular, 72 a minute, and of good quality and tension. Respiration seemed shallow and difficult, but there was no stridor. He was apathetic and apparently unable to raise his voice above a whisper. In a few minutes respiration ceased altogether, and his pulse then became weaker and ceased to be palpable. Tracheotomy instruments had meantime been got ready, and a low tracheotomy was then performed by a single incision of the scalpel. The tracheotomy tube was inserted without delay, but respiration did not begin, and it was noticed that there was no bleeding from the tracheotomy wound. Artificial respiration by compression of the lower ribs (Howard's method) was resorted to, and in a short time spontaneous breathing returned. A few seconds later, and before consciousness returned, there were convulsive movements of the arms and legs sufficiently violent to throw the tray with the instruments off the bed and to give some trouble to keep the patient from being jerked out of bed. He then appeared to waken up, lay down quietly, and was able to phonate quite well when the finger was placed over the tracheotomy tube. Three hours later, when I saw him again, he had lost his anxious look and expressed himself as feeling well. The tube, which had slipped out of the trachea, was replaced in position.

Examination of the larynx showed that the epiglottis was infantile in type and hid the greater part of the vocal cords. The arytenoids moved normally, and there was no oedema or other sign of abnormality. There was a superficial ulcer round the fraenum of the tongue. Knee-jerks were exaggerated, especially on the left side, and there was slight clonus of the left ankle. There was no noticeable "scanning" speech. The pupils were equal, moderately dilated, and reacted well to light. The urine contained some albumin and a trace of blood. On January 18th direct laryngoscopy with cocaine anaesthesia showed the movements of the anterior parts of the vocal cords as far as the vocal processes to be normal, but the posterior one-third moved sluggishly and did not approximate fully. There was some redness and oedema of the mucous membrane of the arytenoids and false cords, but this was considered to be due to passive congestion, and not inflammatory. There were no further laryngeal symptoms, and in ten days the tube was removed and the wound healed up. On January 30th examination revealed a painless swelling the size of a hazel nut in the left anterior pillar of the fauces. A week later this gumma had completely gone, and another had appeared at the anterior border of the right sterno-mastoid muscle, causing some pain and stiffness of movement of the neck. This also subsided within a week, leaving no trace. Dr. Douglas Adams, under whose care the patient was, has kindly supplied the following further details. He had frequent diplopia, lightning pains in legs, girdle sensation, frequency and precipitancy of micturition, difficulty in walking in the dark. The knee-jerks became slightly sluggish, but were never absent, and there was impairment of tactile sensation in the legs. The pupils continued to react actively to light. The Wassermann reaction for blood and cerebro-spinal fluid was positive. The cerebro-spinal fluid gave a normal cell count and protein content. The colloidal gold reaction showed a strong luetic curve—namely, 33221100000.

The patient was discharged from hospital on March 3rd, 1922, to continue antisyphilitic treatment, which had been confined to mercury and iodide on account of the albuminuria.

The occurrence of general convulsions during recovery in this case would be explained by extension of the irritation to neighbouring centres, as frequently occurs in laryngismus stridulus. The appearance and rapid subsidence of gummata elsewhere supports the view of a cortical lesion, while the paucity of localizing symptoms points to a gummatous formation in the membranes covering the cortical centre rather than in the brain substance. Had there been a lesion in the neighbourhood of the pons or fourth ventricle other cranial nerves could scarcely have escaped being involved.

At the same time the possibility of early tabes has strong claims. It is known that such crises are an early—and sometimes the earliest—symptom of this disease, and that the spasmodic attacks vary greatly in frequency, occurring sometimes only two or three times in the course of years, and sometimes daily or oftener.¹ Yet a diagnosis of early tabes does not negative the probability of the laryngeal crisis in the present instance being due to an irritative cortical lesion caused by a gumma.

Another point worthy of note is the quick recovery, even after the cessation of both circulation and respiration. The question at once arises as to how soon after apparent death measures for resuscitation must be regarded as of no avail. A recent paper in the BRITISH MEDICAL JOURNAL,² in which among other cases one of resuscitation two hours after apparent death is recorded, is of interest in this connexion. It seems reasonable to conclude that, at least in cases where there is not an obvious cause of death, measures for resuscitation should not be lightly abandoned. Particularly does this apply in cases of sudden death under chloroform or other general anaesthetic, in which the patient is usually comparatively vigorous, and in which perhaps a rapidly performed tracheotomy followed by Howard's method of artificial respiration might be tried more often with success. Free entrance of air into the lungs is assured, there is less disturbance of the patient than with Sylvester's method of artificial respiration, while external massage of the heart is at least as efficient; and finally, it is much less drastic than direct massage of the heart through an incision into the pericardium.

I am indebted to the Minister of Pensions for permission to publish the above.

REFERENCES.

- ¹ Allbutt and Rolleston: *System of Medicine*, 1908 edition, pp. 280, 281.
² Dr. D. E. Anderson: Resuscitation after Apparent Death, BRITISH MEDICAL JOURNAL, March 11th, 1922, p. 416.

THE TREATMENT OF ASYLUM DYSENTERY BY MEANS OF ANTIDYSENTERY SERUM.

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THE results in the following cases of asylum dysentery, treated at this institution during the past two years, indicate the value of antidyenteric serum. The matter is of importance, since during the second half of 1921 the number of persons in mental hospitals who were attacked by the disease was 728, and of these 126 died.

The serum mainly used was supplied by Messrs. Burroughs, Wellcome, and Co., and was prepared by injecting horses with cultures of Shiga's, Flexner's, and Kruse's bacilli. In Cases 5 and 6 a serum of a similar nature prepared by Messrs. Evans, Lescher, and Webb was administered.

Case 1.—Female, aged 48. The patient, who was in an extremely debilitated state, developed diarrhoea. On the fifth day of the attack the dejecta contained blood and mucus. No previous attack of dysentery had been recorded. The milk diet was stopped and a diet of albumen water, Benger's food, and Valentine's meat juice substituted. At the same time the patient was put on a bismuth mixture and iodoform enemata. This treatment was continued for six days without improvement; 40 c.cm. of the serum were then injected into the pectoral regions. In three days' time the blood and mucus had disappeared, and the patient showed a marked physical improvement. Convalescence was somewhat gradual, but no further traces of blood or mucus were detected, although diarrhoea continued in a mild form for two weeks after the injection. There was no pyrexia during the illness. Nine months afterwards the patient developed slight diarrhoea, cardiac weakness, and pulmonary congestion, and died. At the necropsy the mucous membrane of the large intestine was much injected, but there was no ulceration.

Case 2.—Female, aged 44. For three months this patient had suffered from intermittent diarrhoea, which had been treated with salines and bismuth. Blood and mucus then appeared in the dejecta. Antidyenteric serum, 45 c.cm., was administered. The dysenteric symptoms disappeared in three days' time. A week after the injection the bowels had not opened for twenty-four hours; twelve days after injection the stools were normal. No pyrexia was recorded during the course of the disease. The patient one year after treatment has had no recurrence.

Case 3.—Female, aged 21. This patient had suffered from diarrhoea for three days when blood and mucus were observed. There was slight pyrexia, ranging round 100°. Antidyenteric