His right lower lobe collapsed on September 13, and this was re-expanded after a large quantity of purulent sputum was aspirated through a bronchoscope. He developed a deep venous thrombosis of the left leg on September 18 and anticoagulants were given for a week. He was discharged from hospital on October 2.

Conclusion and Summary

The powerful, rapid, and short-lived action of succinylcholine would appear to make it the most useful muscular relaxant drug for the control of the reflex spasms of tetanus. It can rapidly overcome the severest convulsions, while full respiration and muscular power will return soon after it is withdrawn.

The case described was given a dose varying from 1.5 to 3 mg. per minute for five and a half days, with additional larger doses in times of difficulty; a total of 22.5 g. was given without toxic side-effects.

Light anaesthesia was maintained with nitrous oxide for most of the time; this produced restful sleep without any apparent untoward effects, but whenever it was withdrawn consciousness would return in a few minutes. It is interesting to note that the patient had no memory of the events which occurred during the period of treatment.

Adequate bronchial drainage was ensured by frequent aspiration through a tracheotomy tube, and by a high angle of tip.

My thanks are due to Dr. W. D. Brinton, under whose care this case was admitted, for his kind permission to publish this article; to Dr. R. P. W. Shackleton, whose advice as anaesthetist was paramount; to Mr. Gordon Midgley, who performed the tracheotomy; and to those members of the medical staff (consultant, registrar, and resident), who did their two-hour shift with the patient, day and night, for five and a half days.

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Medical Memorandum

A Case of Phaeochromocytoma without Hypertension

The following case of phaeochromocytoma, which did not fall into any of the usual categories, may be found of interest.

CASE HISTORY

A builder aged 43 was first seen in April, 1952, and was admitted to hospital on four separate occasions between then and January, 1953, on account of recurrent vomiting. His attacks followed a similar pattern—he had a queer sensation in the epigastrium rising in the midline to the throat, he would have a shivering sensation starting in his legs and spreading upwards over the rest of his body, then he would be sick and would have epigastric pain going through to the back. Attacks of vomiting occurred two or three times daily for four to five days, after which he would remain well for about two months.

On examination the patient was rather hirsute and not wasted. He was restless during an attack, would throw off his bedclothes, would throw himself about the bed, and tended to adopt weird postures. His agitation at these times contrasted strongly with his normal quiet manner. His mucosae were pink; his skin was blotchy; pulse 84, temperature 99° F. (37.2° C.), blood pressure 95/55. There was no clinical abnormality in his cardiovascular, respiratory, or central nervous system. His abdomen was normal to palpation.

The history was not suggestive of peptic ulcer. Barium-meal examination showed nothing abnormal; occult blood was negative. In view of the vomiting the patient naturally became salt-depleted, his urinary and plasma chlorides were found to be low, and this was easily corrected by salting his drinks. The low blood pressure and vomiting suggested Addison's disease, but against this were his low urinary chlorides, his blood urea of 44 mg. per 100 ml., and a blood sugar of 130 mg. per 100 ml. His Wassermann and Kahn reactions were negative. On more than one occasion while in hospital his temperature varied between 99° and 100° F. (37.2 and 37.8° C.) and this was thought to point to a septic focus in the abdomen. His white-cell count was 19,000 per c.mm., but his midstream urine and cholecystogram were normal.

Eventual laparotomy was carried out on January 13, the findings being as follows: "The gall-bladder, stomach, duodenum, and left kidney were normal. There was a rounded and fairly soft mass about 2 in. (5 cm.) in its greatest diameter in the retroperitoneal tissue medial to the right kidney. This was enucleated without any great difficulty, and seemed to be closely associated with the right suprarenal gland."

Histological Report.—"Section shows a tumour consisting of irregular polygonal cells with oval vesicular nuclei. There is a piece of suprarenal cortex in the immediate vicinity of the tumour and many of the tumour cells exhibit a yellow pigment after fixation in chrome salts, thereby demonstrating that it is a phaeochromocytoma. There is no evidence of malignancy."

On his return to the ward post-operatively, the blood pressure was 65/30 and it had to be artificially raised for a fortnight by injections of adrenaline in oil and "eucortone." When discharged on February 7, 1953, the patient had no abdominal symptoms, there was no suggestion of recurrent pyrexia or vomiting, he had stopped all injections, and his blood pressure was 125/80. He has since continued to keep well.

COMMENT

In a comprehensive review of this subject Walton (1950) divides the clinical picture of phaeochromocytoma into five categories: (1) paroxysmal hypertension, (2) persistent hypertension, (3) malignancy, (4) Addison's disease due to compression of the suprarenal cortex, and (5) asymptomatic. This patient cannot be said to fall into any of these categories. His blood pressure had been taken pre-operatively on no fewer than 12 occasions; it was usually around 125/70, often it was lower, on a solitary occasion it was 140/100. Swan (1951) has mentioned the problem of recognizing "the possibility that phaeochromocytoma is the cause underlying a story of paroxysmal disturbance in a patient with normal blood pressure when seen." Even during attacks this patient's blood pressure was normal. The only feature which could be considered to point to the diagnosis in this case was paroxysmal disturbance, which did not fit into any of the well-recognized clinical syndromes. In retrospect, the leucocytosis, the low-grade pyrexia, and the anxiety state are features that have been described in phaeochromocytoma, and direct questioning after the diagnosis was made revealed that the patient sweated a lot during strenuous exercise and also with his attacks of vomiting.

This history, however, seems to suggest that, in an otherwise healthy person, paroxysmal disturbance, even in the absence of paroxysmal hypertension, should make one think of phaeochromocytoma.

I thank Dr. J. W. Todd and Mr. S. C. Raw for permission to publish this case, which was under their care; Dr. C. C. Thomas for the histological report; and Dr. E. H. Hemsted for helpful advice.

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