

## A CASE OF ACUTE CHOREA.

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THE following case, which has recently been under my care, in my service at St. Luke's Hospital, presents sufficiently interesting features to be worthy of record.

Herman Lutz, æt. 14, was admitted to the hospital on May 21st. Family history excellent. The patient has never had rheumatism; has enjoyed exceptionally good health during his life until six weeks ago, when he had a well-marked attack of intermittent fever, of the quotidian type. The paroxysms only finally ceased toward the end of the third week from the beginning of his illness. With their cessation the patient first noticed slight involuntary movements of his right foot; gradually his right hand, the upper and lower extremities of the left side, became similarly affected. The patient was, however, able to feed himself and perform other voluntary acts until five days before admission, when the choreic movements became general and of such violence that all voluntary movements were rendered impossible. The disorderly muscular action continued to increase in intensity up to the time of admission to the hospital.

On admission, May 21st, the expression of the patient's face was one of extreme distress; the choreic movements were of great violence, involving every visible voluntary muscle; articulation was abolished; the urine and fæces were passed in the bed, apparently from the inability of the patient to make his wants known; temp. in axilla,  $104\frac{3}{4}^{\circ}$ ; pulse, 120, regular. Conversation addressed to him was evidently in a measure understood. A physical examination of the chest was made with much difficulty, on account of

the constant and extremely violent jactitations of the whole body; a loud systolic murmur at the point of impulse of the heart was detected, the true nature of which was a matter of doubt, on account of the impossibility of a thorough examination. Further examination failed to reveal the existence of any visceral affection in explanation of the high temperature. Mattresses were placed on the floor of an alcove, with others against the walls, and within this enclosure the patient was confined with suitable attendants. Nourishment was given with much difficulty, two nurses restraining by force the contortions of the body, while a third introduced the fluid into the mouth.

May 22d. The patient obtained four hours' sleep at different intervals during the night, under the influence of 3j of the bromide of sodium combined with 3ss of chloral hydrate.

During sleep the choreic movements ceased. The patient's condition shows no improvement. Temp. (axilla),  $104\frac{3}{4}^{\circ}$ ; pulse, 128, regular. Exm. of urine shows the absence of albumen, sugar, casts. Ord. Fowler's sol. in  $\mathbb{M}$ vi doses *t. i. d.*, to be rapidly pushed to the point of tolerance.

May 23d. Patient slept in all four hours during the night, under the influence of 3iss of the bromide of sodium and 3ss of chloral hydrate. His condition remains unchanged; the choreic movements are ceaseless and of great violence. Is taking  $\mathbb{M}$ vii of Fowler's sol. *t. i. d.* Ord. hyoscyamia gr.  $\frac{3}{16}$  (Merck's crystalline preparation) by the mouth, to be repeated in six hours.

May 24th. Pt. had only one hour's sleep during the night. The house physician reports that the muscular disturbance increased so markedly that he did not venture to repeat the dose of hyoscyamia, but substituted the chloral and bromide mixture. Temp. (axilla),  $104^{\circ}$ ; pulse, 104, regular; resps., 36. The patient has been able during the past 24 hours to make his wants known by signs sufficiently to avoid soiling the bed. Ord. a cold pack, which had little or no effect in even temporarily reducing the temperature.

May 25th. Patient's condition worse, the choreic movements, if possible, more violent than at any previous time. Temp. (axilla),  $105\frac{1}{4}^{\circ}$ ; pulse, 134, regular. Is taking  $\mathbb{M}$ x of Fowler's sol. *t. i. d.* Ord. the bromide of sodium to be discontinued; gr. xxx of chloral hydrate to be given at intervals of two hours, until sleep produced.

May 26th. Patient obtained six and a half hours of quiet sleep after the administration of  $\mathbb{D}$ iv of chloral. There is a decided

improvement in his condition in every respect ; the intensity of the muscular disturbance has markedly diminished, imperfect articulation is possible. Temperature (axilla),  $101\frac{1}{4}^{\circ}$ . Pulse, 100, regular. Is taking ℥xii of Fowler's solution *t. i. d.*

May 27th. Continued improvement. Temperature,  $101\frac{3}{8}^{\circ}$ ; pulse, 114, regular. From this date, for several days, iv-vi scruples of chloral hydrate were given daily, with the effect of producing from six to nine hours of quiet sleep in the twenty-four hours ; there was accompanying continuous and rapid improvement in the patient's condition. *Pari passu* with the subsidence of the muscular contractions, the temperature fell, until, on June 1st, comparatively slight choreic movements being present, the thermometer in the axilla registered  $98\frac{1}{2}^{\circ}$ .

During the past week the chloral has been gradually reduced in amount, until at the present time only a single dose of grs. xv is administered at night. Twelve minims of Fowler's solution are still given *t. i. d.*

On examination of the patient on June 16th, the following notes were taken : Patient anæmic, marked dryness, with slight general furfuraceous desquamation of the skin ; no œdema ; no gastric disturbance. Examination of the urine shows an absence of albumen, sugar, casts. The articulation is perfect, the patient cheerful and intelligent for his age. There was an entire absence of choreic movements during the time consumed in the examination. Examination of the heart reveals a very faint systolic murmur at the apex, which is confined to this situation. Area of dullness normal.

*Remarks.*—The points of especial interest in the case which has been recorded are : (a) the high temperatures, which form a curve coinciding very exactly with each rise and fall in the intensity of the muscular disturbance ; (b) the immediate and rapid improvement following the administration of very large doses of chloral ; (c) the influence of the affection in producing a functional mitral murmur.

A correct explanation of the high temperatures observed is, perhaps, impossible. Ordinary chorea is a feverless affection, yet the occurrence of marked pyrexia in the graver forms (we do not refer to the disease known as true chorea

major or Germanorum, which would seem to be an essentially different affection) is mentioned by numerous authorities.

In the present case the influence of a malarial factor in the production of the pyrexia may be doubted, in view of the very irregular temperature curve and the course of the disease. The presence of a visceral lesion, acting as a cause, would seem improbable from the complete absence of physical signs. We are therefore compelled to regard the marked rise in temperature as dependent either upon the ceaseless and very violent muscular contractions, or upon an unknown lesion of the nervous system, exciting at once the choreic movements and the pyrexia.

The effect of large doses of chloral in controlling the acute form of the disease would seem to be demonstrated in the present instance. The improvement following its administration in large doses was immediate and most marked. Similar results have been recorded by Gaidner, Bouchut, Frerichs, Verdalle, and others.

The method pursued in the above case, and which was shown to be the most efficient, consisted in the administration of the first dose toward evening, repeating it at intervals of two hours until sleep was produced. In this way a number of hours of continuous quiet rest was procured, from which the patient awoke invariably refreshed and quieter. The influence of the arsenic in controlling the symptoms may be doubted, inasmuch as extended clinical experience has shown that its effect in chorea is only slowly obtained.

The pathogenesis of the functional disturbance of the mitral valve is as obscure as in cases of anæmia, chlorosis, etc. An affection of the papillary muscles has been theoretically suggested in explanation of the phenomenon, and, *a priori*, would seem more probable in chorea than in other affections.