

# Chorea

## Special points on the Etiology and Treatment as experienced from one hundred cases.

From my Experience of one hundred cases of Chorea collected in Lancashire, Suffolk, Staffordshire, and London I have observed several important points concerning the Etiology and have also successfully used various modes of treatment where the usual methods have failed-

Firstly I will discuss the various items of Etiology

Of the hundred cases, sixty-one were females and thirty-nine were males. The most common age was between eight and twelve - Only one case was under eight viz: four years old. Twelve cases were over sixteen years of age and under twenty-three and one case was at forty years of age. The causes can be classified as follows:-

|                               |    |
|-------------------------------|----|
| Rheumatism                    | 44 |
| Fright or emotion of any kind | 22 |
| Worms                         | 15 |
| Pregnancy                     | 2  |



Acute mania 2  
 Reflex nerve irritation 1  
 Unknown 14 - 100

Again, of these hundred patients, twenty also had a distinct hereditary tendency to the disease - of the twenty two caused by fright or emotion, eight were children of a very weak and nervous temperament whose parents were also of an equally neurotic nature; in fact, five of these eight children's parents had also had chorea themselves when young. In one case, there was a family history of both parents, two sisters and one brother having had chorea although only one of them came under my notice.

It is very difficult to determine in the majority of cases whether Rheumatism is the cause of the chorea, or chorea the cause of rheumatism or even again whether one is simply often an unaccountable accompaniment of the other. I am disposed to think that there is little doubt that Rheumatism is a distinct cause of chorea. In the forty-four cases



I have mentioned as being caused by Rheumatism, twenty-four of them contracted the Chorea soon after a first attack of acute rheumatism and most of them became convalescent from the Chorea as the rheumatism of the joints subsided - Ten of the remaining twenty cases started with Chorea movements when the patient had recovered from the rheumatism but who were in a weak state - The remaining ten patients developed Chorea some months after one or more attacks of rheumatism of a more or less severe type.

Fright or emotion of any kind is undoubtedly a prominent cause of Chorea as my twenty-two cases quoted followed very soon after some fright or emotion Worms can also decidedly rank as an important cause, because several cases of Chorea complicated with worms clear up immediately after the removal of those worms Of the fifteen cases I considered

as being due to intestinal parasites one of them was caused by a tape worm and in this instance the chorea cleared up directly after the expulsion of the entire worm. Two cases were due to *Ascaris lumbricoides* and the remaining twelve were caused by thread worms. Although the etiology of one of these latter cases, as I will point out later, was doubtful, because, after elimination of the worms, the chorea still advanced. However I included this case under my heading of "Worms" because there was nothing to show that the chorea was not caused by them and there was no tittle of evidence of any other possible cause either in the family history or the history of the case. Pregnancy also is the antecedent of some cases of chorea. In one case the chorea cleared up after induction of labour at the end of four months of pregnancy. In both of the cases that came under my notice

The Chorea started at the third month of pregnancy. Acute Mania was a cause of Chorea in two of my cases which I will deal with later on. Reflex Nerve Irritation is another cause which I will also treat anon.

The remaining fourteen cases seemed to be idiopathic as I could get no family history or history of the case to account for the cause of the Chorea.

Having discussed the various causes as observed in the cases of Chorea that came under my care I will now give a few examples with some special remarks and especially with regard to the treatment -

There is no doubt that Choric movements, however violent, become arrested during sleep. Therefore as will be seen in a few of my cases I followed the course suggested by Dr. Bastian some years ago,

namely of prolonging that sleep by the aid of hypnotics. Dr Bastian used chloral only - I found equal and in some cases more benefit still from bromide of potassium, alone or with the chloral and also from hyosine

A.S. Female aged twenty-two  
Occupation - domestic servant -  
There was no family history whatever to be a predisposing cause. However the girl was anaemic but not ill enough to be prevented from doing her work - She was employed in a public house which was in a very dilapidated state of repair - One day, March 9, the roof of the house suddenly collapsed and the girl was knocked down. She immediately fainted but when brought round she was suffering from shock and was at once removed to her own home - She was seriously ill for a week, but gradually the symptoms of shock and concussion wore off.

March 22 Chorea set in. The movements were so quick and violent that she had to be watched day and night - I had the iron part of the bedstead padded and was also obliged to fix her in bed with a sheet tied to the four corners of the bedstead - When asked to show her tongue she jerked it out but withdrew it immediately. She complained of pain over the sacrum only - her movements became so bad that she could not sleep although suffering terribly from exhaustion. The temperature was normal - pulse 100 - The knee jerks were much exaggerated - She also had a loud systolic murmur at the apex and was troubled a great deal with palpitation. The respirations were 40 per minute - She also had rather profuse leucorrhoea and had not menstruated for six weeks. I ordered a mixture of five minims of liquor arsenicalis

five grains of citrate of iron and ammonium and five grains of carbonate of ammonia three times daily. After five days the liquor arsenicalis had been gradually increased to eight minims

March 27. There was not the slightest improvement, in fact she was not so well. Her temperature was  $100.2^{\circ}F$ . pulse 110 - respirations 35. Since March 22. she had had only six hours sleep altogether. I therefore ordered twenty grains of chloral hydrate combined with fifteen grains of potassium bromide and ten grains of ammonium bromide to be repeated in four hours if awake. The movements became less but no sleep at the end of four hours. Seeing the movements less I was sent for before she was given the repeated dose. I, finding her drowsy gave her fifteen grains of chloral fifteen grains of potassium bromide and ten grains of ammonium bromide

She then slept seven hours straight off - when asleep the respirations were 28 per minute and there were no choreic movements beyond occasional twitchings when she awoke the 15 grains of Chloral 15 of potassium bromide and 10 of ammonium bromide were repeated and she slept again for twelve hours. When she awoke, she perspired freely and was very hysterical. She had dyspnoea but I think it was due mostly to the globulus hystericus. She complained of violent headache. I ordered an ice bag for her head and increased the bromide of potassium to 25 grains but still gave the 15 grains of Chloral and 10 of ammonium bromide.

March 30 - The movements were a great deal less - Temperature 99.8° - pulse 100 - respirations 30. She then slept fourteen hours right off - when she awoke again she had less headache but was more hysterical - in

fact she was very delirious and spoke of suicide and death. I then gave her 30 grains of potassium bromide and ten grains of bromide of ammonium but I left out the Chloral. She slept another twelve hours.

April 1. The movements were less - the hysteria also better. The appetite which had gone off was improving - her headache was a great deal better and there was no palpitation - I ordered ten grains of Chloral and five grains of bromide of ammonium and twenty grains of potassium bromide three times a day - Temperature was  $99^{\circ}7$  pulse 90 respirations 25. She then began to sleep at night three and four hours without any hypnotic.

April 9. There was marked improvement - The movements were very slight - The menses came on during the previous night and kept on for four days I ordered five minims of Fowler's solution three times a

day  
 April 15. She was able to get out  
 April 25. I ordered her to The  
 country where she became quite well.

H. M. Male aet: 9. He had no  
 family history. His mother had  
 noticed thread worms which had  
 become more marked as the peculiar  
 movements, which were getting violent  
 were more noticeable. Excepting  
 these symptoms the boy was normal  
 in all respects - I ordered him to  
 bed and prescribed pantonin by the  
 mouth and salt injections per  
 rectum. In a week there were no  
 worms to be found and all the  
 usual symptoms of worms disappeared  
 However the choreic movements  
 still kept up and as strong as before.  
 I then ordered two minims of liquor  
 Arsenicalis thrice daily but he  
 vomited after each dose. I  
 therefore diminished it to one  
 minim but it had the same  
 effect - I then tried three grains  
 of chloral three times a day -  
 Curiously enough he kept it down

and had two hours of sleep - I gradually increased the dose of the Chloral each day until ultimately he was taking eight grains the result being that his periods of sleep increased from four to ten hours at a stretch - Each time he woke up, the movements were less - When they became very slight indeed I put him <sup>on to Parris's food</sup> and the boy recovered and became strong and well -

Several months afterwards he was brought to me for worms again - He was twitching slightly but this time the Santonin expelled the worms and stopped the twitchings This case is peculiar in the fact that although in this last instance the apparent mild Chorea twitchings ceased directly the worms were cured, yet before, the elimination of the worms had no effect on the Chorea - The only explanation I can give is; - in the first instance the Chorea was so far advanced and it had so attacked the nervous system that even the

Eradication of the cause was not sufficient to cure the consequent.

G. W. Female aet 16. This child's mother brought her to me saying that she thought the right hip was out of joint due to a fall some time back. She limped with her right leg and seemed to have lost full power of use in her right hip and knee - I then noticed that her right arm and the right side of her face were also slightly affected - I sent her home to bed and ordered ten grains of potassium bromide and watched her case, which remained the same for several days. She next complained of her throat and became very hysterical - I ordered the bromide to be increased to fifteen grains and told the mother to report to me in the evening - Suddenly I was sent for to see the girl as she was in a fit. I arrived when it was over but on hearing the history of the fit I diagnosed epilepsy

The girl was in a state of coma when she woke up some time afterwards she was in a low nervous condition and still twitching more or less. The next day when I saw her I found her suffering from distal Chorea but it was not marked any more on one side of her body than the other I ordered four minims of liquor Ansemalis but gradually the movements became exaggerated. Her temperature was  $103.4^{\circ}\text{F}$  Pulse 120 - She was sponged with tepid water - The temperature came down to  $101.2^{\circ}\text{F}$  but in a few hours went up again to  $103.4^{\circ}\text{F}$ . I then put her in a wet pack which reduced her temperature to  $101.8^{\circ}\text{F}$  and curiously the movements also were slightly diminished. I then ordered ten grains of Chloral every four hours when awake - The movements still lessened and she slept for three and two hours with half an hour's interval between - I kept on with the Chloral and after each dose she slept more

I gradually reduced the dose and after six weeks from my first sending her to bed she was cured.

W. B. Female - age 40 - Occupation Charwoman - She had had two attacks of rheumatic fever - the first, when she was 29 and it lasted three months - the second at 39 which lasted nine weeks. Her father & mother had both been martyrs to gout and her only brother was then suffering from rheumatic arthritis. Six weeks after her second attack of rheumatic fever she sent for me and I found her suffering from mild chorea. Suddenly in four days she became a great deal worse - the walls at her bedside had to be padded. Her temperature was normal - Pulse 95 - respirations 30. At the end of a week she was very violent and became maniacal - A loud systolic murmur was heard at the apex - When I first examined her heart on my first visit the sounds appeared quite normal.

I gave her 30 grains of Chloral-  
She had three hours sleep and  
the movements on waking were  
less but in two or three hours  
again they were increased. I  
kept up the Chloral at the rate  
of 15 grains every four hours.  
After three such doses she had  
a long sleep of ten hours - She  
awoke a great deal better and  
the mania had subsided. She  
complained of headache - her  
temperature was  $100.2^{\circ}F$  - pulse 100  
respirations 28 per minute. I  
ordered fifteen grains of Chloral  
with twenty grains of potassium  
bromide which after being  
repeated in four hours produced  
sleep again for nine hours. This  
time she awoke with less  
headache. The movements were  
much less violent and she was  
cheerful - Gradually after  
reducing the dose of the Chloral  
each time and the frequency  
she became better and ultimately  
recovered.

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F. S. Female aet: 20 - occupation dressmaker - She had a rheumatic history - Had just been sent home from a convalescent home because of violent jerking. This was eleven weeks since the last outbreak of rheumatic fever. These jerking became so violent that I had to anaesthetize her with Chloroform twice - After the second application the movements became slightly weaker - I ordered twenty grains of Chloral and she slept two hours - I repeated the dose & she slept, after two hours of restlessness, five hours. On awaking she was very delirious and her symptoms tended towards mania - I then injected  $\frac{1}{100}$  grain of hyosciné hypodermically. She slept after this eight hours but awoke a great deal quieter both as regards the movements and the delirium but she complained of severe headache - I ordered an ice bag to her head a mixture of 25 grains of Chloral with fifteen grains of Bromide of

Potassium. After this, she slept seven hours. She awoke perfectly cool and collected - the movements were slight and she had no headache. I then gave her fifteen grains of Chloral only and she slept again eight hours. I then as before gradually reduced the Chloral until she had natural sleep and the movements gradually disappeared and the woman recovered.

E. H. Male, aet 19. Occupation Clerk  
 This man had a bad family history. His father had died in a lunatic asylum - his mother was alive but a very hysterical neurotic woman. He came to me saying, that he was continually hearing sounds like men using filthy language to him. On thoroughly examining him I found him suffering from hallucinations and I also noticed that he could not keep still. At first, I thought the peculiar movements were due to his turning and twisting round on hearing the noises, he

complained of, but after further examination, I found it a case of Chorea complicated by mania. I sent him home at once. The movements became very violent I anaesthetized him twice but the movements commenced again as severe as before, directly he came out of the Chloroform I gave him 25 to 30 grains of Chloral but it had no effect. I then after a time gave him  $\frac{1}{100}$  grain of hyoscin hypodermically but the effect was very slight. Gradually he became exhausted more & more till he ultimately died seven days after he first consulted me.

D. W. Female aet 21 No occupation  
 This girl had had four previous attacks of Chorea. Each attack had been worse than the last. She had no rheumatic history. Her temperature was  $104^{\circ}7$ . A systolic murmur was heard at the apex. I ordered a wet pack which brought her temperature

down to  $101^{\circ}7$ . Also I prescribed  
 15 grains of potassium bromide  
 and 15 grains of Chloral four  
 times a day - The next day her  
 temperature was  $104.2^{\circ}7$ . and  
 the movements were worse - I  
 increased the Chloral to twenty  
 grains and ordered the wet pack  
 again. This time her temperature  
 came down rather suddenly to  
 $100^{\circ}7$ . The movements became  
 less. Three hours afterwards I  
 repeated the 20 grains of Chloral  
 and it still decreased the Choric  
 movements. Then she had four  
 hours sleep. When <sup>she</sup> awoke,  
 curiously enough the movements  
 were worse - I gave her 15  
 grains of Chloral and she then  
 slept eight hours straight off.  
 She awoke much better and was  
 tolerably quiet - Then I began  
 lessening the Chloral and she  
 gradually improved in every  
 way - Then after I left off the  
 Chloral I put her on to 7 minims  
 of Fowler's solution thrice daily  
 and she became completely cured.

J. W. Male. aet 12. He ~~was~~ evidently overwork and anxiety at school was the cause. He had been worrying over a medal he had a chance of getting at the board school and could never rest at home without reading his school books. His mother said he talked about his lessons in his sleep. He suddenly developed the usual symptoms of Chorea complicated with acute facial neuralgia. I gave him ten grain doses of potassium bromide which lessened the movements but had no effect on the neuralgia. I then added five minim doses of tincture of Selselenium but this still had no effect on the neuralgia. I changed his mixture to three grain powders of Ecalgine every four hours. This alleviated the pain of the neuralgia considerably and gradually both it and the Chorea improved until I stopped the Ecalgine. I then ordered him some Syrup of iodide of Iron and he quite recovered -

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The two last cases that I especially wish to mention are:-

1. A lad of sixteen - occupation messenger - He had chorea complicated with aortic regurgitation - He had no rheumatic or cardiac history - in fact the chorea was evidently brought on by fright as it came on suddenly after seeing his brother suddenly taken with violent haemoptysis a few days previously - The aortic regurgitation did not show itself till some days after the chorea -

2. A case of a male child aged four His mother brought him to me complaining of his not being able to keep still - I diagnosed it as chorea at once - She also said that he wetted the bed so much - I enquired about the likelihood of his having thread-worms and on his mother answering that she had noticed some worms in his motions I ordered him Santonin - It

acted satisfactorily as far as the worms were concerned, but the chorea kept up and so did the incontinence of urine - I then examined the penis and found the child suffering from slight phimosis - The next day I circumcised him and within a day or two all the choreic movements decreased & soon disappeared without the aid of any further medicine.

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Concerning No. 1. I especially mentioned the case because of the aortic valve being affected instead of the mitral and I believe this condition to be very rare

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As regards No. 2 this case gives a good example of reflex irritation through the genital nerves being the cause of the chorea - especially as in this case the clearing up of the worms had no effect on the chorea whilst the circumcision had -

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In the case of the Clerk E. H., mentioned on page 18, who died I was fortunately able to obtain permission for a post mortem. I found all the organs healthy except the brain - The brain was small and only weighed  $35\frac{1}{2}$  ounces - The only other abnormal sign was a very hyperaemic state of the entire Cerebrum and especially of the Corpora Striata.

In mentioning all the above cases I have purposely only noted the particular symptoms of each case, as all the remaining symptoms were the same as those of all typical examples of Chorea.

The especial reason for my noting the cases is to show of what immense value hypnotics are in the treatment of Chorea - In other cases I have tried other hypnotics notably: - Sulphonal - butyl Chloral hydrate and paraldehyde but none have acted so speedily or in such a certain manner as Chloral

or bromide of potassium.

In two cases I mentioned I administered Chloroform - I was obliged to give an anaesthetic because of the violence of the movements and the speed in which the Chloroform acts in abating the movements. The objection however to Chloroform is that although it abates the movements it only does so for a short period and when the patient is well out of the Chloroform the movements often increase. Hyosine hypodermically is also an excellent cerebral sedative but one can only prescribe it for an adult. It is especially useful in all cases of chorea associated with mania.

In two cases mentioned where the temperature has been very high I have advocated the use of the wet pack. In each case it has been most effectual in reducing the temperature and remarkable to state also decreasing the Choric movements.

Dr. Sachs of America, an authority on Chorea condemns the wet pack in Chorea and advises sponging with tepid water instead - I have used both treatments and have found no harm accrue from using the wet pack and have had infinitely better results. I combined all my modes of treatment with the usual orders of complete rest - light and non-urushing diet &c &c.

On finding that nature soothes the Choric patient with sleep, I think it is our duty to the patient to supply the "necessary" when nature fails or, in other words, I am of opinion that the best treatment for Chorea, whether slight or serious as the case may be is:-  
 "make your patient sleep"

Godfrey Barnes

M.B. C.M.