A LECTURE ON RHYTHMICAL HYSTERIC CHOREA.

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HAVING recognised the case which now occupies our attention as a well-marked example of rhythmical chorea, we must now show that the title of hysterical is further applicable to it; or, in other terms, that the choreiform affection is here under the influence of an anterior malady—hysteria—of which it represents one of the multiple and varied manifestations. To establish the existence of the hysterical basis in our patient will be an easy task; the proofs in support of our assertion will be found in abundance.

The study of her antecedents teaches us that in G. convulsive hysteria began to manifest itself from the age of thirteen. We have seen this young girl present daily in this hospital for a period of two years, from about the age of fifteen to seventeen, and, in the most marked fashion, the permanent local symptoms of the form of hysteria which we propose to call ovarian, although menstruation had not yet appeared. The appearance of the menses, which took place about two years ago, has not modified the clinical picture in any essential respect. The convulsive paroxysms and the local phenomena have persisted as before, and I will presently prove to you their actual existence. I might cite to you several other cases of ovarian hysteria developed several years before menstruation; and, on the other hand, I shall presently show to you two women in this hospital in whom the hystero-epileptic crises, as well as the series of symptoms of local hysteria which are almost inevitable in such cases, have persisted, without any other modification than a slight diminution, for several years after the occurrence of the menopause. These facts in the pathological domain agree, I may remark in passing, with the physiological facts, which are now numerous, tending to demonstrate that the activity of the ovary is far anterior to the menstrual function, and survives it.†

Here is the enumeration of the principal symptoms of local hysteria, of which the presence may be actually recognised in our patient. There exists an ovaralgia or *ovaric* on the right side, very distinctly marked; the pain by which it is manifested is fixed, always present in a certain degree, and is spontaneously increased at the approach of the attacks. At all times, it is increased by pressure. It is at this painful point that the sensation of premonitory aura of the attacks seems to take origin, ascending then to the epigastrium, præcordial region, neck, head, etc. All the right side of the body—head, neck, and trunk and limbs—is in a state of complete, absolute anæsthesia. You see, in fact, how a large and not well-pointed needle may be passed through thick folds of the skin of the forearm, of the nape of the neck, of the leg, and of the interdigital folds of the right hand, without the patient having the least idea of what is being done. On the right side, there is also thermo-anæsthesia; and, further, the special senses are also all affected, although in different degrees.

There are anosmia in the right nostril; absolute loss of taste in the right half of the tongue from the point to the base; diminution of the auditory power of the right ear; amblyopia with dyschromatropsy of the right eye. In this eye, G. has completely lost the perception of colours called central—violet and green; while she still distinguishes quite clearly the peripheral colours—red, orange, yellow, and blue. To this hemianæsthesia corresponds, as is usual in such cases, a certain degree of hemiamyasthenia. Thus, whilst for the left hand the dynamometric pressure is 25 *kilogrammes* (nearly 54 lbs.), it is represented for the right hand by only 15 *kilogrammes* (a little more than 32 lbs.).

Let us take the opportunity of noticing once more the remarkable concordance, on which I have many times insisted, between the seat of the iliac pain and the mode of localisation of the concomitant symptoms. The ovaralgia is seated on the right side; and it is the right side that suffers from anæsthesia and cachexia. It is also on the right side that in G. is manifested the contraction of the limbs when it follows the attacks; and you have been able to observe that it is the limbs of the right side that are to-day agitated by rhythmical

choreiform movements. It is at least very probable that these phenomena would occupy the left side of the body, if the ovaralgia were seated on the left.*

I limit myself to this summary exposition, and I spare you the details which my previous studies on the subject will have already brought before you. My object has been only to show you that, so far as concerns the local symptoms, the case of G. is a very regular, very classic example in the category of ovarian hysteria. There, however, is still one point upon which I desire to comment an instant, because it relates to some questions now under discussion. Our patient, to speak the language of Dr. Burq, is a polymetallic hysteric. She is sensitive to gold and to tin; that is to say, if you apply to her, in any region of the anæsthetised parts, either a plate of tin or some pieces of gold, you find, at the end of ten or fifteen minutes from the application, that sensation has returned in all its forms, not only under the metallic plate itself, but also above and below it within a certain limit. There are, you know, according to the observations of Dr. Burq—observations now recognised as perfectly accurate at least on this point—hysterical persons who are sensitive exclusively to gold, others to iron, others to copper, or zinc, or silver. There are also—as you see here, for example, under our eyes—polymetallic hysterical persons; that is to say, sensitive to several metals. The fact of being influenced in the manner just indicated by the simple metallic application is not, contrary to the opinion hitherto expressed by Trousseau, a character exclusively peculiar to the hemianæsthesia of hysterics. We have seen, in fact, two cases of complete cerebral hemianæsthesia of old date connected with an organic lesion, in which applications of metals have, as in hysteria, had the result of causing the return of normal sensibility. But whilst in these two cases the results have been definite and permanent, so far that they still exist at the end of more than a year, they have always been transitory in the cases of hysterical hemianæsthesia which we have observed. In cases of the latter kind, half an hour, two hours, or twenty hours after the pieces of metal have been removed, the anæsthesia returns just as it was before the application. This very mobility, this transitory character of the phenomena, is perhaps a feature which really distinguishes hysterical hemianæsthesia from cerebral hemianæsthesia of organic origin.

So far as results to the convulsive crises, I shall limit myself to saying that in this matter also G. may be considered as a true subject for study. In her, in fact, the diverse phases which, according to the description that I have given you, make up the hysterical epileptic attack in its type of complete development, succeed each other with remarkable regularity: 1. A phase of generalised epileptiform convulsions terminated by a short period of stertor; 2. A clonic phase *par excellence*, consisting of extensive movements of the body—of contortions; 3. A phase of attitudes, of passions, or, if you prefer it, of *poses plastiques*. The period of consecutive delirium after the crises, which in other subjects is so pronounced, is, on the contrary, in this case hardly noticeable. Such is the series of phenomena which constantly in all the attacks, and in the intercurrent attacks, the chain of which constitutes a state of disease, are reproduced in G. always after the same method and in the same order. I will add, finally—it is a symptom, in my opinion, of the first order—that methodic compression of the right ovarian region, provided always that it is conducted according to rule,† always immediately arrests in her the phenomena of the attack, whatever they may be, and whatever may be the period at which the manœuvre is performed.

I have said enough, I hope, to enable you to recognise that our patient, as I have already told you, presents all the characters of ovarian hysteria under the most regular, most classic form. I shall now endeavour to show you that the rhythmical chorea with which she is to-day tormented does not represent a fortuitous complication, a foreign episode in the history of a great nervous malady, but that it is attached, on the contrary, to the hysterical diathesis by very close bonds as a subordinate affection, in the same manner as paralysis and contractions and the convulsive crises themselves.

I will point out, in the first place, that the chorea began to manifest itself ten days ago, immediately after the cessation of an attack; that is to say, in circumstances in which the various motor phenomena, paralysis, and contractions of the limbs belonging to the ordinary hysterical series are frequently developed. I will further bring to your notice that the crisis, as the sequel of which the chorea has been produced, was remarkable for its short duration and the relative slightness of all its symptoms. It was not followed by that feeling of relaxation of which

* Concluded from page 225 of last number.

† See among others on this subject De Sinety, *Arch. de Physiologie*, 1875, p. 501; Barker, *Philadelphia Medical Times*, 1874; and *Jahresbericht*, 1874, p. 723.

* There are some rare exceptions to this rule. I have once seen hemianæsthesia occupy the left side, whilst the ovaralgia occupied the right. Dr. Barlow of London has published a fact of the same nature.

† *Maladies du Système Nerveux*.

patients of this kind generally complain when the attack has really terminated. Hence, from this point of view, choreiform agitation might be considered as the continuation, the prolongation under a new form, of an abortive hysterical paroxysm. But there is a stronger argument, as we have assured ourselves during the last few days by repeated experiments, and as you are about to ascertain yourselves *de visu*. Methodic compression of the right ovarian region has for its certain and constant result in our patient the complete arrest of the rhythmic movements. I practise the manoeuvre in question. Some complaints, a swelling of the anterior region of the neck, some noisy movements of deglutition, and the protrusion of the tongue, indicate that the expected result is about to be produced. You see, in fact, the rhythmic movement of the body, then of the limbs, stop suddenly, as by enchantment. But, although delivered from the agitation to which they were just now a prey, the limbs do not on that account recover their normal functions. They have become, especially the lower limbs, the seat of considerable muscular rigidity, comparable at all points to the contraction which, I have remarked to you before, is produced every morning temporarily at the moment of waking, before the agitation renews its course.

I proposed to you just now to recognise in the rhythmic chorea an hysterical attack in some sort prolonged and transformed. Might not one now, having regard to what precedes, connect the chorea with the contraction, and regard them as symptoms of the same pathological value, as equivalents, capable of being substituted one for the other in the series of hysterical affections?

This remarkable arrest of the choreiform movements under the influence of ovarian compression is nevertheless, gentlemen, only a suspension, a truce, which lasts so long as the compression is continued; immediately that it is suspended, you see the contraction disappear and the rhythmic movements of the trunk and limbs, just now extended and rigid, recommence as actively as ever. To convince you the better of this, I repeat the compression four or five times, and each time you see the whole series of phenomena reproduced exactly as in the first experiment.

From all this, I believe I can conclude that the rhythmic chorea observed in our patient is related to the condition of the ovary in the same way as the ordinary and convulsive crises, and that it ought to take rank among the many varied manifestations of diathesis.

It is time to look at the practical side of the subject. Developed as the sequel of an attack, that is, in the conditions in which paralysis and contractions are very ordinarily manifested, may not these choreiform movements be expected to persist just as they are until the final attack, which may not occur for a long time? Is it not possible by appropriate intervention to alter the situation, to deliver the patient from the agitation which exhausts her, to restore her, while waiting for better things, to the state in which she was ten days ago. The effects of the ovarian compression on those symptoms which are due to hysteria are not always fugitive and temporary. I shall show you on another occasion that by persisting in the compression, or by repeating it at short intervals during several hours, we sometimes succeed in causing these symptoms to disappear definitely. By this manoeuvre, we have often succeeded in cutting short the state of hystero-epileptic disorder, which left to itself would have been prolonged for several days. It is possible to succeed also in suddenly dissipating the contraction of the jaw, of the tongue, or of the limbs, when the symptoms have, if I may so speak, been for a long time installed.* Success has also been attained in putting a stop in this way to hysterical dumbness which had lasted already for several months.† Analogy leads us to think that prolonged and repeated ovarian compression would, without doubt, have the result of causing the permanent disappearance of the rhythmic convulsions. This shows, gentlemen, that in the effects of this manoeuvre we have not only a means of diagnosis, an element capable of clearing up the theory of the disease, but also a therapeutic means; its practice is, however, difficult and not very suited to use. Moreover, it is not the only means to which we have thought of having recourse in the present circumstances. According to our observations, the application to the ovarian region of a bag of ice during half an hour, and repeated several times a day for several days, has often the result of arresting the attacks or lessening their intensity. But the effect of these applications is generally slow in production, and the results obtained are not always very striking.

It will be preferable, I think, to have recourse either to the inhalation of ether or of nitrite of amyl. The effects of the inhalation of

ether in hysterical patients have something peculiar. They have not yet been much studied, but certainly deserve to be well known. In certain subjects, for example, such inhalation may, by the production of unequivocal symptoms, reveal the disease which has hitherto remained latent; in others, in which it is, on the contrary, in full activity, we have seen it determine sometimes one and sometimes another phase of the attack, and sometimes the whole series. Now, an attack at a given moment in a hysterical patient may play the part of a favourable crisis, and bring about a sudden cessation of the troublesome symptoms which have, perhaps for a long time, resisted all the agents employed. In respect to nitrite of amyl employed in inhalations, it is, as M. Bourneville has shown, a means of particular efficiency in cutting short, promptly and definitely, a state of hystero-epileptic disorder, even when it presents itself under the most marked form. For this reason, it appears to us rational to propose the trial in the present case. We shall have recourse to ether first, then to nitrite of amyl, if the former fail; and we shall not omit to keep you informed of the results which we obtain. If we succeed, as we hope, in causing the cessation of the rhythmic convulsions, we shall have delivered our patient from the symptoms which annoy and fatigue her enormously, the duration of which, if they were left to themselves, can hardly be foreseen. That will already be something, no doubt. It is, however, clear that we shall not by that means have modified the fundamental disorder; but I do not desire, at this moment, to stop to consider the treatment of the hysterical diathesis. That is a subject which requires to be discussed at length, and which I count on having an early opportunity of specially studying with you.

It will not be difficult for you to find in medical literature a certain number of cases which you can compare with this which makes the subject of our conference. Without going farther than the contemporary epoch, I will remind you that the rhythmic chorea of hysterical persons is specially mentioned in the memoir by M. G. Séé. Trousseau has not failed to speak of it at some length in his clinical lectures, and he cites there cases which evidently belong to this category. He rightly emphasises many of the circumstances which characterise the affection, in addition to the antecedents or concomitant hysterical symptoms, the form of the symptoms—viz., specially the harmony, the regularity of the choreiform movements. He appears to attach a certain diagnostic importance to the fact that the patients succeed by an effort of will in lessening, or even in momentarily suspending, these movements. But this could not be recognised as an unequivocal character. You will observe, in fact, that in G., whatever may be the efforts of will which she makes at our solicitation, the rhythmic agitation of the limbs and of the trunk persist unaltered. M. Briquet, in a chapter of his treatise (*Traité d'Hystérie*, p. 420) which he devotes to convulsions arising in hysterical patients outside the period of their attacks, relates also some interesting observations on rhythmic chorea. The case of Mlle. B., in particular, shows that this affection may sometimes persist, as hysterical contraction too often does, for several years. I will quote further an observation of Dr. Murchison, related by Dr. Handfield Jones in his *Studies on Functional Nervous Disorders*. In this case, as in ours, the choreic movements were limited to one side of the body; they were interrupted from time to time by attacks in which the parts just previously agitated were temporarily seized by rigidity. The patient could, as in Trousseau's cases, moderate or arrest them by an effort of will. It seems to me useless to multiply cases.

Before terminating, there is still a point on which I ought to lay stress. I cannot say at present whether all rhythmic chorea is *ipso facto* hysterical; but certainly all chorea is not on that account necessarily rhythmic. In support of my assertion, it will suffice to present to you another patient, W., in whom, as you see, the agitation evidently enters, so far as the form of pathological movements, into the description of ordinary chorea. When she is seated, there is no rest for her; the head, the trunk, the limbs of the two sides are incessantly agitated by contradictory movements. Erect, she cannot support herself without assistance; her limbs bend, and then straighten for a moment. If she walk, she is threatened every minute with falling. The movements in question are irregular, disorderly in principle; you cannot recognise either rhythm or cadence, nor does anything recall an intentional action. In W., however, the characters of hysteria are not less pronounced than in G. Besides the attacks which present themselves here with the three great characteristic phases of hystero-epilepsy, I pointed out the permanent existence of general anaesthesia with any anaesthesia specially pronounced on the right side and of double ovari-algia, but, as you might foresee, specially pronounced on the right side. W. is a hysterical patient sensitive to zinc. I will add finally (and it is a feature of importance and which cannot escape you) that in her, as in G., methodical compression of the right ovarian region, which in this particular case must be simultaneously performed on the two sides,

* Bourneville, *Progrès Médical*, 1877; and *Iconographie Photographique de la Salpêtrière*.

† Debove and Liouville.

has the effect of momentarily suspending the choreic movements just as it arrests the attacks.

I have, perhaps, already too long detained you over a case the like of which you will doubtless very rarely meet in practice. But the clinical observer must not disdain the exceptionally abnormal cases which furnish him with a special mode of exercising his sagacity; besides, they must not be considered in the light of mere food for vain curiosity. Many a time, in fact, they will be found capable of furnishing to the pathologist the solution of difficult problems.

CLINICAL LECTURE

ON

A CASE OF PHTHISICAL PERFORATION OF THE PLEURA, WITH PNEUMOTHORAX.

BY GEORGE JOHNSON, M.D., F.R.S.,

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GENTLEMEN,—I have now (January 7th, 1878) under my care a case in which there is very conclusive evidence that a softened tuberculous deposit in one lung has caused perforation of the pleura, with resulting pneumothorax—that is, an escape of air into the cavity of the chest. The symptoms and the physical signs which occur in connection with this serious accident are very remarkable and very interesting; and I propose now to give you a brief history of the case, as recorded by my clinical clerk, Mr. Macdonald, with some practical and explanatory comments thereupon.

G. G., aged 26, an Italian stonemason employed at the new Law Courts, was admitted into Sambrooke Ward December 26th, 1877. He came to this country two months ago. For about six weeks, he has had cough, with expectoration of phlegm and occasional slight blood-spitting. Two days before his admission, he was suddenly seized with pain in the right side of the chest and great difficulty of breathing, which confined him at once to his bed. On admission (December 26th), the respirations were 54, pulse 140, temperature 105 deg. He complained of pain below the right nipple, extending through to the back. There was frequent short cough, with scanty muco-purulent expectoration. On inspection, it was seen that, while the left side of the chest moved freely, the right side was nearly motionless. The apex of the heart was seen and felt beating in the sixth interspace external to the left nipple. The liver was felt extending at least two inches below the margin of the ribs on the right side. On percussion, the whole right side of the chest was more resonant than the left, though the resonance had not a tympanitic character. Over the whole left side, there was loud puerile respiration; while on the right side the first impression was that respiratory sounds were entirely absent; but, on careful auscultation below the nipple, I discovered at each inspiration a distinct so-called "metallic tinkling"; and some of you will remember that I then expressed my opinion that a tuberculous deposit near the surface of the lung had softened, and perforated the pleura, so that, at each inspiration, air passed into the cavity of the pleura, giving rise to the condition called *pneumothorax*. The inspiratory metallic tinkling is caused by bubbles of air bursting through a small opening on the surface of the lung into the air-filled cavity of the pleura, and there giving rise to a resonant echo. The air enters the cavity of the pleura more freely than it passes out (no expiratory sound was heard). The consequence is, that the right side of the chest has become distended with air, which pushes the heart to the left, and the diaphragm and liver downwards.

There is yet another remarkable physical sign. When the patient speaks or coughs, the voice and the cough are heard to resound with what is called an amphoric echo: a similar echo to that which is heard when we speak with the mouth over the orifice of an empty decanter, or over the bung-hole of an empty—that is, only an air-containing—wooden cask.

The prognosis was very grave. The past history—in particular the hæmoptysis—renders it nearly certain that there is tuberculous disease of the lung; and now the right lung, being compressed by the air upon its surface, has collapsed, and is thus rendered useless; in addition to this, some pus and softened tuberculous matter has escaped into the cavity of the pleura, and acute pleurisy has been the result.

The right side of the chest was ordered to be covered by a linseed

poultice, and fifteen minims of liquor morphine to be given three times a day.

On December 31st, when I saw him for the second time, the metallic tinkling sound, or amphoric crepitation, as it is better called, was replaced by a loud inspiratory amphoric blowing, most distinctly heard below the right mamma in front, and behind in the right inter-scapular region. The amphoric echo of the voice and cough remained as before. The change from amphoric crepitation (metallic tinkling) to amphoric blowing is probably to be explained by the enlargement of the opening in the pleura permitting a fuller current of air to pass at each inspiration into the cavity of the pleura. The sound is exactly imitated by blowing sideways into a decanter, or into a large metal tube, such as a gun-barrel.

January 3rd. The physical signs on the right side remain the same, except that there is some dullness on percussion extending to near the angle of the scapula, indicating liquid effusion into the pleura. On the left side, near the angle of the scapula, a dry friction-sound is heard on inspiration. Inflammation has extended from the right to the left pleura, which is now roughened by lymph.

January 27th (the day on which this lecture was given). The auscultatory signs have again undergone a remarkable change. The amphoric blowing is no longer audible, and no respiratory sound of any kind is heard over the right side of the chest; while the amphoric echo of the cough and voice continue. What is the explanation of this change? The most probable interpretation of it is, that the orifice in the pulmonary pleura has been closed by a recent exudation of lymph, by which the passage of air from the lung into the cavity of the pleura is prevented. The temperature has ranged from 101 to 103 deg. until within the last two days, when, with increasing weakness, it has fallen to 98 deg.; the respirations, from 36 to 54; and the pulse, from 120 to 140. There has been a rapid decline of strength, and it is evident that the disease must soon terminate fatally.

Subsequent History, with a Report of the Inspection of the Body.—Death occurred on January 8th, within twenty-four hours after the preceding lecture was given: and the following is a condensed report of the inspection which was made by the Pathological Registrar, Dr. Barrow, thirty-three hours after death.

On opening the abdomen, the liver was found to be pushed down to within an inch of the umbilicus. The convexity of the diaphragm on the right side was on a level with the ninth rib, while on the left it extended as high as the fifth or sixth rib. The heart was displaced entirely to the left of the median line. On puncturing the right side of the chest, a quantity of air escaped. The right pleural cavity contained about six pints of greenish sero-purulent liquid. The right lung had completely collapsed; its entire surface was covered by a thick layer of recent lymph; and at its base were two masses of soft lymph, the larger one being as large as a kidney. When the lung was inflated by blowing air into the trachea, no air escaped from the surface until the soft lymph had been carefully scraped off, when a circular opening large enough to admit the blunt end of an ordinary probe was discovered at about the middle of the posterior surface of the lower lobe of the lung. Through this opening, after the removal of the recent exudation, air escaped freely when the lung was inflated. On incising the lung at that spot, the opening was found to communicate with a cavity about the size of a large walnut; the cavity being partly filled by a purulent secretion, and surrounded by condensed lung-tissue. The apex of the lung was consolidated, and contained several caseous masses; but in no other part had softening and excavation occurred. The posterior surface of the left lung was partly covered by a thin layer of recent lymph. The apex of the left lung was condensed, of a greyish colour, and having a shotty feel, with here and there a small mass of caseous deposit. No other noteworthy morbid appearance was discovered.

Subsequent Clinical Commentary on the Case.—It will be seen that, in this interesting case, the *post mortem* appearances corresponded very exactly with the physical signs observed during the various stages of the disease; and in particular my bedside interpretation of the replacement of the amphoric crepitation (metallic tinkling) by amphoric blowing, and the final cessation of the latter auscultatory sign, seem to be completely confirmed. The phenomena of this case are entirely in accordance with Fournet's doctrine that, in cases of pneumothorax from perforation of the pleura, the phenomena of metallic tinkling and amphoric blowing will cease if complete closure of the opening be effected. Without doubt, a crepitating echo (metallic tinkling) may occur in a closed pleura containing air and liquid, as a result of the agitation of the liquid by coughing or movement of the body (succussion), or the fall of drops of liquid from the upper to the lower parts of the pleural cavity; and perhaps even, as Dr. Walshe suggests, "the echo of rhonchi in the adjacent bronchial tubes may cause tinkling" (*On Dis-*