Original Articles.

HYSTERIA, AS AFFECTED BY REMOVAL OF THE OVARIES.¹

BY G. L. WALTON, M. D.

It is not the object of this paper to discuss oöphorectomy, as such, either from the surgical or the moral point of view, but to consider the question of hysteria as benefited or not benefited by the operation. This operation having, in the face of persistent opposition, forced itself into recognition on purely gynæcological grounds, the neurological aspect of the subject seems now to attract considerable attention, and its importance is not inconsiderable.

That all sorts of reflex nervous symptoms accompany diseases of the uterine appendages is a well-recognized fact. Similar symptoms appear, to be sure, in women with normal reproductive organs, and even in men, facts which have led to the depreciation of the uterine origin of hysteria to that degree that we sometimes meet with the statement that hysteria is *always* a constitutional disease, having no relation whatever to the pelvic organs. Now, although this is undoubtedly the usual character of the disease, there are certainly many cases in which hysteria occurs in persons possessing no constitutional tendency to nervous trouble, the symptoms dating accurately from disease of the pelvic organs. In view of these cases we must take a step backwards towards the ancient view that all hysteria arose from uterine disorder, substituting, however, probably here the ovaries for the uterus as the seat of original irritation. It becomes of practical importance to consider this subject carefully, for if hysteria exists in a given case of pelvic disease in which operation is proposed, and if the hysteria is considered to be dependent on the ovarian irritation, there will be an additional indication for removing the offending organ. Indeed, if the hysterical symptoms reach a certain degree in such a case they may alone furnish sufficient cause for the operation. One finds not infrequently among reported cases of Battey's operation the statement that the reflex nervous symptoms were relieved. Detailed accounts of such symptoms are, however, not common, and it seems probable that among these cases typical and measurable symptoms of hysteria, such as hemianæsthesia, would be oftener found if oftener sought. As a rule, however, the nervous symptoms have occupied the background, the important indication for operation being generally the dysmenorrhœa.

The question of removal of the ovaries for hysteria alone has now been broached, and has already been practically tested with results diametrically opposed.

As an example of unsuccessful operation may be cited the case of Landau and Remak,² in which both ovaries were removed on account of hystero-epilepsy, combined with hysterical hemianæsthesia. The ovaries were found normal, and the nervous symptoms were not alleviated in the least. These writers express, therefore, the opinion that the operation for hysteria is unjustifiable, and that the tenderness existing over the ovaries in this disease is merely a hyperæsthesia symptomatic of the general nervous irritability rather than pointing to the source of the nervous

trouble. On the other hand, a large number of cases have been reported in which hystero-epilepsy and similar symptoms have disappeared after removal of the ovaries. In the collection of 218 cases made by Battey of the operations between 1872 and 1881 epileptic attacks were present in twenty-six cases, and were relieved in over two thirds of the number. A number of cases have been reported since this collection was made in which hystero-epilepsy has been the chief indication for removal of the ovaries, and has disappeared or been greatly mitigated by the operation.

As examples of such cases may be mentioned two of Carstens',³ whose histories were briefly as follows:—

CASE I. The patient, twenty-four years old, single, had been a sufferer about five years from dysmenorrhœa, leucorrhœa, and severe hystero-epilepsy, coming on at the menstrual periods. There was no hereditary nervous tendency. Examination showed retroversion of uterus, slight endometritis, internal stenosis of uterus, and ovarian tenderness. The left ovary (adherent) was removed, together with a small cyst from the left Fallopian tube. The operation was followed by disappearance of the menses, and by permanent relief of the hystero-epilepsy and the leucorrhœa, at least neither had recurred a year after operation.

CASE II. The patient, twenty-four years old, married, has no nervous family history. Severe ovaralgia came on four years ago, accompanied by pain in the vertex and attacks of hystero-epilepsy, occurring sometimes daily. Examination showed retroflexion of the uterus and exquisitely tender left ovary. This was removed, and found diseased. Perfect cure followed, without remission up to the time of second report, made four months after operation. The conclusions drawn by Carstens are as follows: "In general I might conclude that Battey's operation is not only justifiable, but really we might say it is criminal neglect not to perform it in cases which fail to be benefited by other treatment. It is a last resort after every other proper treatment has failed in cases which are caused by ovarian disease, such as hystero-epilepsy, dysmenorrhœa, and menorrhagia due to fibroid tumors, and which either endanger the life of the patient or make life a burden to her."

These views are certainly justified by experience, and the difference between these results and those of E. G. Landau and Remak seems to lie in the selection of cases. That operated on by the latter writers was one of the large class of hystero-epileptics in which the nervous condition is independent of the uterine appendages. The fact was established by examination of the ovaries after operation that in this case the ovarian tenderness did not result from disease of those organs, but was only indicative of general sensitiveness of the nervous system. As regards this class of cases, which is to say, probably, as regards the large majority of cases of hysteria, the conclusions of Landau and Remak are undoubtedly correct. Such cases, however, as those operated on by Carstens, come under quite another category, in that the hysterical symptoms were manifestly secondary to and dependent on ovarian irritation. It is only with regard to the latter class of cases that the question of operation should ever have been considered for a moment,⁴ and the first question to be asked is, Into which class does the case in hand fall?

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, April 9, 1884.

² Zeitschrift f. klin. Med., Berlin, 1883, vi., 437-452.

³ American Journal of Obstetrics, March, 1883.

⁴ Cases of insanity accompanying menstruation have indeed been

It may be well at this point to consider briefly the probable physiological relation between hysteria and the ovaries in the two varieties of hysteria, idiopathic and symptomatic.

Hysterical symptoms, mental, paralytic, and convulsive, arise probably from perverted function of the cortical cells of the brain, the final centres of sensation and motion, and the seat of the mental processes. This may be considered the accepted view of neurologists at present. Just what pathological state obtains in those cerebral cells is still a matter of conjecture. Post-mortem examination reveals nothing. Whether the disturbances arise from vaso-motor irregularities, from minute changes in structure, or from mere alteration in reflex irritability without anatomical basis we need not question at present. All that interests us in this discussion is the fact that the connection is a close one between these perverted cerebral states and disordered visceral organs, and that, whatever the *modus operandi*, cerebral and abdominal irritability generally, if not always, coexist in cases not only of hysteria, but of the allied nervous conditions, as hypochondria and neurasthenia. Now the link through which the connection is established between brain and viscera can be none other than the sympathetic nervous system. From this system the ovaries are richly supplied from the renal plexus, whose connection with the brain is anatomically a very direct one, although this is by no means an important factor, inasmuch as the physiological relation between all parts of the sympathetic nervous system is so close, and the transit so rapid, that the most distant portions of the body are always in intimate and immediate connection.

In cases of hysteria the cerebral disturbance is evidenced sometimes by *loss* of activity, motor and sensitive, as in paralysis, and sometimes by *increased* activity, as in convulsions and hyperæsthesia. Again, both classes of symptoms often coexist in the same patient, some cerebral functions being abnormally active, while others are depressed. Among the symptoms illustrating the former no one is more constant than hyperæsthesia. Spots of hyperæsthesia are sometimes found on the scalp and sometimes on the spine, but rarely fail in the region of the ovaries. The opinion is, to be sure, held by many distinguished writers, as, for example, by Westphal, that this tenderness is in connection with the abdominal wall, not the ovaries. But this view seems clearly disproved by the fact that the spots of tenderness rise during pregnancy with the uterus and fall again after childbirth.¹ The ovarian tenderness arises probably from the peculiar irritability of the rich sympathetic nervous supply of the ovaries, an irritability greatly increased at certain periods by the congestion to which the female reproductive organs are subject. In the ordinary case of hereditary hysteria, this tenderness being merely a local symptom of cerebral excitability, the removal of the ovaries will have no more effect on the disease than the removal of a sensitive spot of skin over the spine.

In the acquired form of hysteria, as in that secondary to peritonitis, cellulitis, or cystic degeneration of the ovaries, the symptoms may be much the same as in hereditary hysteria, but the whole train is probably

relieved by the removal of the normal ovaries and tubes, merely by establishing the menopause, and perhaps analogous cases of hysteria exist. I should hesitate, however, at present, except in a most aggravated case, to recommend the operation for hysteria unless organic disease were suspected.

¹ Féré.

started by mechanical irritation, as by the pressure of an exudation upon this same ovarian nervous supply, the line of transmission of irritability being from the ovaries to the brain and thence to the various parts of the body. In such cases the hysterical symptoms may not only furnish an additional indication for removal of the source of irritation, but they alone may make life such a burden to the patient as to render the operation not only justifiable but imperative. Certainly when the cerebral irritability culminates in persistent hysterio-epilepsy with its usual accompaniments, mental and physical, any measure which promises a chance of relief is worthy of careful consideration.

Until a comparatively recent date the symptoms of hysteria have received so little systematic study that it is only in the latest reports that we find accurate accounts of the nervous manifestations in individual cases. Recent investigations have, however, enabled us not only to classify more or less satisfactorily the seemingly incoherent symptoms of this protean disease, but have brought to light a new symptom whose importance cannot be overestimated, in that it gives us when present a comparatively accurate measure of the severity and progress of the disease. I refer to unilateral loss of sensation.

Hemianæsthesia should, then, always be sought in cases of functional nervous disease, whether idiopathic or secondary to disease of the visceral or other organs, and the clinician who follows this plan will be surprised by the frequency of its occurrence in a marked degree unsuspected even by the patient.

The following cases, which have come under my observation, and in one of which the ovaries have been removed with a (so far) successful result, will serve to illustrate the presence, among other hysterical symptoms, of a typical hemianæsthesia, secondary, probably, to disease in the pelvic region.

CASE I. The first patient, Mrs. H., was sent to Dr. H. W. Bradford on account of indistinct vision. Dr. Bradford attributed the ocular disturbance to the nervous trouble, and requested me to examine the case.

The patient, thirty-two years old, married, without issue, belongs to a family with no mental or nervous history excepting that the father died of apoplexy. The mother is living and well. During the past ten years the abdomen has been excessively tender, especially in the right side, pressure there causing pain for days afterward. Within two years she is said by her family physician to have had an abscess in right iliac region with an offensive discharge per vaginam. For about ten years the patient has suffered from severe headaches, accompanied sometimes by vomiting, and sometimes by ringing in the ears and vertigo, with tendency to step up and to fall forward. The headaches begin about a week before the menstrual period and disappear a week after. During this time her sight, at other times fair, is very indistinct. During this period, also, the patient is forgetful, incapable of mental exertion, and makes such mistakes as bringing a plate when she goes for a fork, often enough to cause her anxiety. Between the periods her mind is perfectly clear and vigorous. She has suffered from cramps in the right arm and leg, and from temporary loss of power, having, for example, dropped a plate from weakness of the right hand. She has herself noticed that the sense of smell is much better on the left than on the right, and she always uses her smelling bottle on that side.

The appetite is fair, the bowels constipated. The menstrual flow is moderate in quantity and very painful. The headaches are seated principally at the vertex and temples, and are accompanied by coldness of the vertex, dilated pupils, and by paleness of the face.

Physical Examination. The heart and lungs are normal. The pupils are large, alike, and react sluggishly to light. Patellar reflex exaggerated on both sides. Extreme tenderness of the scalp is found, especially at the vertex, and there are tender spots on the temples. There is no tenderness elsewhere excepting over abdomen. The abdomen is full and tympanitic everywhere. The left ovarian region is somewhat sensitive to pressure, and on the right side the tenderness is so excessive as to preclude careful palpation, the lightest percussion causing pain over a large area. No vaginal examination was made. The report of a previous examination contains the information that anteversion of the uterus existed, that the cervix was normal, and that there was slight vaginismus.

Motion. There is no special loss of motion in any muscle or group of muscles, but the strength is greater as a whole on the entire left side.

General Sensation. There is loss of all forms of sensation on the entire right side to the median line; only moderately heavy pressure being perceived on this side, while on the left the lightest touch is everywhere felt.

Special Senses. The sense of *smell* is greatly impaired on the right, also that of taste. The smell of menthol and the taste of sugar both distinct on the left side, being barely perceived on the right. The *hearing* through the bone is wanting on the right, and that through the air is greatly impaired, the watch which is heard at fifty centimetres on the left being heard on the right at only fifteen. The hearing for high tones was not tested. The membranes are normal; the Eustachian tubes quite free.

The report of the *ocular* examination, kindly given me by Dr. Bradford, is as follows: Vision with right eye $\frac{7}{6}$ (Monoyer) emmetropic. With the left eye there is perception of light only, with lateral fixation. No visual field for form or color to be obtained. The field for form in the right eye is concentrically retracted excepting downwards, where the apex of a triangle reaches the normal limit. The fields for color in this eye are all concentrically limited, with reduction of the field for blue (outside) to nearly the degree of red and green, the fields of the latter colors being about one third of the normal, that of blue one sixth. The fundus on the right is normal. On the left, upon continuous exposure, the arteries seem to contract to one third their diameter, and the patient becomes unable to continue. (This result was several times repeated.) The pupils retract normally to accommodation, sluggishly to light, and are one third or more larger than normal.

The diagnosis was that of hysteria, probably secondary to abdominal disease. The coldness of the head, dilatation of the pupils, and ischæmia of the retina (left) pointed to irritation rather than paralysis of the sympathetic, and nitro glycerine in drop doses of the one per cent. solution was advised, in the hope of at least relieving the headaches. Operation on the ovaries was in this case not considered, but if the symptoms should become so severe (to use Carstens' expression) as either to endanger the life of the patient

or to render it a burden, and if careful local examination should reveal a pathological lesion involving the ovary, and if, again, all other treatment, local and general, should prove useless, the operation should certainly be taken seriously into consideration. The headaches and general condition were reported some time after as benefited, apparently by the nitro-glycerine.

It seems a pertinent inquiry, foreign to the question under discussion, but bearing on the pathology of hysteria, whether anæmia of the surface of the left hemisphere, resulting from spasm of the blood-vessels, may not have been the cause of the anæsthesia and weakness of the opposite side. It is certainly an interesting, and, as far as I know, unique phenomenon that the visual defect in the right eye was typical of central disturbance (amblyopia, with concentric retraction of the field), while the blindness of the left eye was that of retinal ischæmia.

CASE II. The second patient, Miss A., was one operated upon by Dr. Barss, of Malden. The nervous symptoms being pronounced, Dr. Barss kindly gave me the opportunity to examine the patient before and after operation. The case will be reported by him in detail later, but a brief sketch of the important facts will be of interest in this connection.

January 2, 1884 (before operation). The patient, aged twenty-nine years, single, belongs to a family free from nervous and mental trouble. She has suffered from excessively painful menstruation, and more or less constant pain in the back since puberty. Both these symptoms have increased in severity, and of late years various nervous symptoms have been superimposed. The patient is now unable to leave the bed on account of pain and weakness. She has been for some years subject to frequently-recurring convulsive attacks, in which she is sometimes rigid, and sometimes shakes violently. No distinct opisthotonos has been observed. Examination reveals marked diminution of all sensations on the entire right side of the body to the median line. Taste (sugar, quinia) and smell (lemon, vanilla) are entirely wanting on the right. The hearing by the air is less acute on the right, and that by the bone is wanting. The sight is above normal on both sides without glasses, and there is no retraction of the field of vision, nor loss of color perception. The tendon reflex is greatly exaggerated on both sides, the tap causing a violent twitch of the whole body, and great distress. There is some loss of strength in the right arm and leg. There exists a wax-like rigidity of both feet, most marked in the right, the foot resisting forcible movements, but yielding gradually to pressure. Once placed in an awkward position the foot remains so for some minutes without causing the least distress, or even attracting the patient's notice. Attempts to flex the right leg upon the thigh are met by tonic contraction of the quadriceps femoris. The ovarian region is excessively tender on both sides, most markedly so on the left. Palpation shows the left ovary twice the size of the right (Dr. Barss). The patient is anxious for immediate operation, although its nature and dangers are fully understood, the patient being unwilling to undergo the pain of another menstrual period. Both ovaries were removed, without the tubes, January 18, 1884. They were found cystic degenerated. Recovery was rapid, and the patient expressed herself within a week as feeling better than for many years.

My second examination was made March 21st, two months after operation. The hemianæsthesia was much lessened, the lightest touch being felt over the entire right side, though not quite so plainly as on the left. The substances which were not perceived at all by smell and taste on the right side before operation were now recognized on that side, though not so easily as on the left. The watch on the temple, previously heard only on the left, was now heard on both sides, best on the left. There was no trace of the wax-like rigidity in the left foot, and that in the right was much diminished, the right foot when bent into an awkward position now falling back directly to a natural one, though not so completely as the left. The reflex spasm of the quadriceps femoris on the right still persisted. The tendon reflex was normal on the left, but still exaggerated on the right, causing a twitch of the whole body, but less marked than before, while the distress caused by the tap was comparatively slight.

The most marked improvement was with regard to the convulsions, previously so severe and frequent, only two light attacks having appeared since the operation. There had been considerable pain in the back and abdomen at the menstrual period, and at this time the patient, at others up and about, was confined to her bed for some days. We cannot, of course, assume that the improvement will be permanent, but the case well illustrates the rôle which hysteria may play as an indication for operation, and the result up to this time has certainly been most satisfactory.

A CASE OF ACTINOMYCOSIS IN A HEIFER.¹

BY W. F. WHITNEY, M. D.

SINCE attention has been called to this form of parasitic disease a number of cases have been observed in Europe within the last two years. Few, however, have been seen in this country, and, as far as is known, none in this immediate vicinity.

The specimen came from the head of a heifer which had been sent to the Harvard Veterinary School, and was kindly placed at my disposal for examination by Dr. C. P. Lyman, who suspected the nature of the affection.

The disease presented itself as a large fungous-shaped mass, projecting from the lower edge of the right horizontal ramus of the lower jaw near the middle. The surface was granulating and covered with a thick crust of purulent material. The outline was slightly lobulated. Upon section the mass appeared to be composed of lobe-shaped divisions, distinguished by their yellowish color and softer consistency from the intervening tissue. Upon deeper dissection the bone was found invaded throughout its thickness, and a large cavity crossed by bony trabeculae filled with a pul-taceous mass of a dirty yellow color was disclosed. The yellow color, both in the solid portions of the growth and in the semi-fluid substance from the cavity, was found to be confined to numerous irregular-shaped particles about the size of a pin's head. These could be easily isolated on the point of a knife.

Microscopic examination of these particles when fresh showed that they were composed of large numbers of small bodies of an elongated pear shape, some-

times branching, with slightly clubbed extremities. These were arranged side by side radiating from a central point or line, and presented a very characteristic and peculiar appearance. Lime salts were often associated with them, which had first to be dissolved in dilute mineral acid before the nature of the growth could be determined.

Portions of the tumor were hardened in a mixture of two parts Muller's fluid and one part alcohol, and thin sections made from this showed that each of these clumps of radiating bodies was surrounded by a narrow zone of small cells, the size of leucocytes, in a greater or less degree of fatty degeneration. (This must contribute largely to the yellow color of the particles as seen with the unaided eye.) This zone gradually passed into a tissue composed of large contiguous round cells, and which would be designated as sarcomatous.

These appearances correspond to those first described by Israel in cattle, and later by Ponfick in man, and distinguish the disease as produced by the presence of actinomycetes or radiating fungi.

The clinical history of the case, as furnished by the owner, is as follows:—

"The heifer was a pure Holstein, born in Massachusetts November 25, 1881. In the spring of 1883 was hooked in the jaw, which swelled badly at first but receded later. In October, 1883, the swelling broke and discharged up to the time of death; at the same time the tumor began to increase rapidly in size. She aborted January 6, 1884, at about the eighth month, and was killed April 8, 1884. The owner had never seen a similar case, nor was there any other among his herd."

The occurrence of this case renders it probable that others, as yet undetected, may be in the neighborhood and may serve as a focus of contagion to other animals and man.

Reports of Societies.

THE ANNUAL MEETING OF THE PENNSYLVANIA STATE MEDICAL SOCIETY, MAY 14, 15, AND 16, 1884.

THE thirty-fifth annual session of the State Medical Society of Pennsylvania was held at Philadelphia from May 14th to 16th inclusive. It was the largest meeting ever held by this Association; nearly four hundred names were registered. DR. HENRY H. SMITH, of Philadelphia, President of the Society, performed the duties of presiding officer with dignity and discretion.

FIRST DAY'S PROCEEDINGS.

DR. JOHN B. ROBERTS, chairman of the Committee of Arrangements, delivered a brief Address of Welcome.

TRIBUTE TO PROFESSOR GROSS BY GOVERNOR PATTISON.

Dr. Roberts was followed by the Governor of Pennsylvania, HON. ROBERT E. PATTISON, in a short address, in which a graceful tribute was paid to the memory of Professor Gross, "that great man whom all regarded with so much pride and veneration; to whose masterly mind two continents paid honor, and

¹ Specimen shown at the meeting of the Clinical Section of the Suffolk District Medical Society, April 9, 1884.