

## INSANITY FOLLOWING GYNECOLOGICAL OPERATIONS.

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So often has the reproach come to my ears, that our almshouses and asylums are full of insane women whose mental condition was due to gynecological operations, that I became somewhat curious on the subject and determined on finding out how much truth there might be in these rumors. Up to the time of beginning this investigation I had personally not seen a single case of the kind, and could not bring myself to believe that they were of such frequent occurrence. As might have been supposed, these rumors were proven to be as unfounded as they were malicious. Each of the large insane hospitals in the State of Pennsylvania were communicated with, and answers more or less satisfactory were obtained from all but the State Institution at Harrisburg. The information sought was "whether any female patients had been admitted to the hospital within the past five years on whom a laparotomy had been performed and in whom insanity had followed." In some instances the question was misunderstood, and cases in which the operation had been performed for the cure of preëxisting insanity were included. I give the results of these inquiries as they were received :

*Harrisburg State Hospital for the Insane.* No answer.

*Danville State Hospital for the Insane.* Dr. S. S. Schultz states that "so far as I am aware no patient was ever admitted into this hospital upon whom a laparotomy had been per-

formed, with one exception." This exception was a young woman who had been addicted to self-abuse for years, and on whom an operation had been performed for acute maniacal excitement. Both ovaries were removed. The woman subsequently recovered her health and returned to her husband.

Since receiving this report I understand there has been another case at this hospital, but am unable to state the particulars.

*Warren State Hospital for the Insane.* Dr. John Curwen writes: "You may think it singular, but out of 376 female patients in this hospital we have not one who has had an abdominal section." He subsequently informed me that this statement applied to his experience both at the Warren institution and to the one at Harrisburg, with which he was formerly connected.

*Western Pennsylvania Hospital for the Insane (Dixmont).* Dr. H. A. Hutchinson informs me that during the period of his residence at this institution but two patients have been treated on whom an abdominal section had been performed. In both instances the operation was made for the cure of preëxisting insanity, but each time it failed in its purpose.

*Insane Department of Blockley Almshouse.* Dr. Hughes states that since 1883 they "have never had a single patient in the house on whom an abdominal section had been performed."

*Pennsylvania Hospital for the Insane (Kirkbride's).* Dr. Edward Brush has informed me that he cannot state positively, but that he is strongly of the opinion that but two women have been admitted to this institution on whom an abdominal section had been performed. Whether the operations were made prior to the existence of the mental condition was also uncertain.

*Norristown State Hospital for the Insane.* Dr. Alice Bennett writes that they have had five patients in the hospital on whom laparotomy had been performed. The first woman

was a patient of Dr. H. A. Kelly, who informs me that there was no previous history of insanity. He attributes the result to the shock of the operation, the symptoms having begun to develop two weeks later. The operation was performed for a large ovarian tumor. She died five months later without any change for the better in her mental condition. It has been ascertained that several cousins on her mother's side of the family had been insane.

The second case was a patient of Dr. J. Henry C. Simes, who informed me that there was a history, both family and personal, free from any tendency to insanity. He attributes the result to the operation, the symptoms beginning to develop two weeks afterward. The operation was performed for incurable metrorrhagia, both ovaries being removed. She is still mentally weak.

The third case was a patient of Dr. W. C. Holoopeter. She was married at the age of sixteen years, and had been an intense sufferer since. There is no history of previous mental disturbance either in herself or in her family. The operation was performed some three years ago for double adherent salpingitis and ovaritis. Some four months later, while away from home, her insanity gradually developed and lasted over a course of several years. She is now well and better than she has been since her marriage.

The fourth case was a patient of Dr. E. E. Montgomery. Some years before the operation she had been in an asylum for mania, but had been well, at the time of the operation, for several years. Both ovaries were removed. She was in good health for a year, when she developed insanity. She is still far from herself.

The fifth case has a bad family history as to insanity. She had been insane some time before the operation, which was performed, under protest, by Dr. Charles Meigs Wilson. Both ovaries were removed. At the present time (October, 1890) the patient is practically well.

*Friends' Asylum for the Insane.* Dr. H. A. Tomlinson sends

me the histories of the only three cases in this hospital. The first case is the same as No. 3 in the report of Dr. Alice Bennett from the Norristown Asylum.

The second case—a patient of Dr. W. Gill Wylie—had been insane for some years previous to the operation, and has not been benefited by it.

The third case was a patient of Dr. Paul F. Mundé. She had no previous history of insanity, nor can any be obtained for her family. Both ovaries were removed, and her mental condition developed two weeks after the operation. She has become gradually worse, and in November, 1890, was considered hopeless. Dr. Leigh writes me in behalf of Dr. Mundé that the operation was not a severe one, and he does not attribute the result to the operation.

*Burn Brae, Clifton Heights.* Dr. I. W. Phillips states that they have had but three women in the house on whom abdominal operations had been performed. All three had preëxisting insanity, and the operation was in each instance undertaken for its cure by Dr. William Goodell. One case was cured; the other two were not benefited.

An analysis of the reports of these eight institutions shows a total of fifteen cases, eleven of whom had preëxisting insanity. The operations in the eleven cases were for the most part undertaken for the cure of the mental condition. It is of passing interest to note that in only a small proportion of these cases did any good result, and even here it is doubtful if the operation was the sole factor in the relief obtained. The insane hospitals in the State of Pennsylvania, in spite of all that has been said to the contrary, can muster but four female patients mentally sound on whom an abdominal section has been performed and insanity has followed the operation. Of these four cases one died, one recovered, and two are still insane.

As a matter of fact, mental disturbances following gynecological operations are much more frequent than is generally supposed. Many of these are of minor degree, or they re-

cover so quickly that it does not become necessary to incarcerate the sufferers in an asylum. A certain proportion of the more severe cases terminate fatally with great rapidity.

In 1888, Ill (*Pittsburg Medical Review*, January, 1888) reported three cases of insanity following operation, and presented a collect of seven additional ones. In 1889, Thomas (*Medical News*, April 1, 1889) reported six similar cases and collected twenty others (including the ten reported by Ill). Keith (*Medical Press*, October 15, 1890) reported that of his sixty-four cases of hysterectomy, six had resulted in insanity, three acute and three chronic. Tait (*Medical News*, September 27, 1884) in his first 960 laparotomies met with seven cases of acute melancholia. Robert Barnes states that Sir Spencer Wells had twice during convalescence after ovariectomy seen maniacal attacks. Savage met with this condition three times in 483 cases. I have myself met with two such cases and am cognizant of a number of others which have not yet been put on record.

The first case I met with was somewhat over a year ago. The patient had a torn perineum, complicated by rectocele and cystocele. The parts were repaired by Dr. T. Hewson Bradford, with my assistance. Ether was the anæsthetic used, and the woman was under its influence for over an hour. Immediately upon being put to bed, dry heat was applied by means of hot bottles. The nurses were inexcusably ignorant and careless, and in consequence the patient was most horribly burned in half a dozen places. The burned points sloughed deeply and were several months in healing. Toward the end of her illness she began to develop peculiar symptoms and rapidly ran into a condition of melancholia with suicidal and homicidal tendencies. So marked did these become that it was necessary to send her to the Pennsylvania Hospital for the Insane, where she still remains. I am informed that she is perfectly well and will be discharged within the next few weeks. There is no family history of insanity in her

case, nor did she ever show any previous tendency to the disease.

My second experience was with a patient sent me by Dr. Joy, of Atlantic City. The woman was married and about thirty-five years old. She had had one child early in her married life, a bad laceration resulting from her labor. Since this accident she has been a constant sufferer. Her menstrual periods came every three weeks and lasted four or five days, although they were scant. During these periods she had peculiar attacks. She would get what she called "screaming spells." These consisted of periodic outbursts of the most terrific screams, accompanied by violent contortions. These "spells" seemed to be entirely independent of her pain, which was very great. She had on several occasions, during a menstrual period, left her bed and appeared on the streets in her night-clothes, screaming at the top of her voice; in fact on one occasion she was threatened with arrest for indecent exposure. It has been subsequently learned that she had been an inmate of the University Hospital and was refused operation on account of a violent attack which kept her confined in a cell for six weeks or more. During her menstrual periods she was in the habit of taking large doses of morphia, but her doctor informed me that she would refuse it at other times. From other sources I have reason for believing that she was in the habit of taking it on her own responsibility.

It was thought that a thorough dilatation of the cervix might relieve her sufficiently to save her an abdominal section, but a most careful search for the os, with the woman under the influence of ether, failed to reveal it. The uterus was large, high up, and fixed. The appendages could not be outlined. The reason of this was easily understood, as there were four inches of fat on the abdominal walls. She was allowed to recover from the effects of the ether, and the same night had a "screaming spell." For the next few days she remained perfectly well in every way. Morphia had been refused her, except on one occasion, from the day she entered

the hospital. With the exception of sleeplessness for several nights this seemed to have no bad effect. An abdominal section was made with the idea of removing the ovaries and bringing on the menopause. The operation was an extremely difficult one. Both ovaries and tubes were bound down. The tubes were in a condition of chronic adherent salpingitis; the ovaries each contained blood cysts the size of walnuts. The enucleation was made with great difficulty and the ligatures were applied at least three or four inches below the skin surface. I thought at one time that I should fail in accomplishing my object. The woman recovered slowly from the anæsthetic, and it was soon afterward evident that she was not in her right mind. For the first thirty-six hours she gave considerable trouble, but after this became brighter and more quiet; so much so that we thought it safe to move her into the ward. The same night she was moved she had a violent attack and it became necessary to isolate her once more. For several days she was noisy, incoherent, and cyanotic by spells. Her eyes were dull and she appeared most of the time to be in a dazed condition. About the sixth day she began to be more and more restless and finally broke out into wild maniacal attacks. She was so violent that it was necessary to strap her in bed. From this time until the end, which was two days later, she became worse and worse. Her struggles and screams were terrific; she could be heard for squares. Drugs seemed to have little influence on her. Morphia, bromide of potash, chloral, ether, hyoscin, and other remedies were used freely, but failed to quiet her, or only did so after having been pushed to the danger-point, and then merely for the time. Throughout her whole illness her abdomen remained flat, her temperature and pulse were normal, she ate well, her bowels moved freely, and she passed her urine in normal quantities and at proper intervals. As the end drew near her struggles became more violent, her pulse and temperature began to rise. Finally her pulse became so rapid and feeble that it could not be counted, and a few hours before her death

the thermometer registered  $108^{\circ}$  in the folds of her neck. A post-mortem examination of the abdomen was alone allowed. The seat of the operation was in perfect condition and there was not the slightest sign of any intra-abdominal trouble. The woman died either from exhaustion or from apoplexy. At the time of the autopsy, blood was running freely from the nostrils; this, in conjunction with the fact that the local congestion during the paroxysms was so great, made me think that the latter might have been the determining cause of the death.

These unfortunate results seem to be unavoidable and as yet no one has succeeded in suggesting a reasonable cause for them, although many theories have been advanced. One is apt with a limited experience (and any single experience must of necessity be limited) to attribute these accidents to some one cause, when, as a matter of fact, several factors are almost certainly at work in each case. For instance, it has been asserted that all these cases must have had a previous history of mental trouble, or else the family history was bad or doubtful in this respect. But a careful study of the cases reported by different observers will render it plain that such an explanation is admissible in but a small proportion of cases. In the same manner the influence of different drugs which have come in for their share of blame, may be almost certainly eliminated. In some cases no drug whatever has come in contact with the wound. In no single case is there any conclusive evidence that medication has had any influence in the matter. If fear or dread of the operation had more than an incidental influence in bringing about the result, the proportion of these accidents would be infinitely greater than they are both in the male and in the female. Sepsis in a certain proportion of cases may be looked upon in the light of a cause, but the number of cases in which this is true must be exceedingly small. In many it is not even possible to consider sepsis. My own case, following laparotomy, for instance, occurred immediately, and there was absolutely no



chance for such an agent to act. Chronic alcoholism is such a common condition with hospital cases that if this were a common cause one would look with certainty for a larger number of bad results than have already occurred. Although all these factors may theoretically have their influence, yet a study of the existing cases show a very small proportion in which it is at all probable that such was the case. The theory advanced by Mary Putnam Jacobi, viz.: "Dilatation of the bloodvessels of the abdomen from reflex inhibition of the splanchnic nerve," seems to me to be unreconcilable to the facts. There is no good reason for supposing that insanity follows operations on the peritoneal cavity from an entirely different cause than is at work in the case of operations on other parts of the body—and it is a well-known fact that general operations are more frequently followed by this result than laparotomy. Any attempt to offer an explanation for any particular group of cases to the exclusion of all others can only lead to false conclusions. Fillebrown and Prochownik (*American Journal of Obstetrics*, January, 1889) hold "that the mental disorder is produced by reflex causes arising from the healing processes subsequent to injury to the peritoneum." This explanation is not dissimilar to the one offered by Mary Putnam Jacobi. They go more into detail, however, as to the exact cause of the irritation; but the objections to it are precisely similar to those in the former. The attempt is made to explain a certain class of cases, where the explanation will not hold good for any other case. But even as applied to laparotomies, the theory is too faulty to stand examination. In three of Fillebrown's cases there "was an exudate with a rise of temperature after the operation. These exudates were referable to inflammations around ligatures, or to small after-hemorrhages into the peritoneal cavity. The protracted irritation to the peculiarly sensitive peritoneum and its neighborhood, so rich in nerves, finally accumulate, and, having reached a certain degree of intensity, ultimately exerts its influence upon the central nervous system." It is

to this concentration of peripheral irritation that they ascribe the outbreak of the mental derangement. How can the cases which occur almost immediately after the operation be reconciled with this theory? Is it altogether true that the peritoneum is such a sensitive membrane and so richly supplied with nerves as we have been in the habit of stating? Is there not more or less exudate in every case in which a ligature has been applied, and are not these cases of insanity comparatively rare? Finally, do not only too many cases of small and in fact large after-hemorrhages, as well as suppuration and extensive exudations, occur without any sign of mental disturbance?

It seems to me that no one of the causes advanced is sufficient to account for these distressing conditions, nor would a combination of them have a direct influence in this direction. The only explanation possible would appear to be the existence of some peculiar condition of the nervous system. This being present, one or more of the factors under consideration are sufficient to cause an explosion. The elements which undoubtedly have the greatest influence in determining the result in the cases occurring immediately after operation, are the anæsthetic and the shock of the operation. The determining causes of the cases which only develop weeks or months after an operation has been performed are not so easily found. What this condition of the nervous system is, and how it may be recognized prior to an operation is, for the present at least, not known. Where there has been either a personal or family history of mental disease, an operation should only be undertaken with a full understanding of the possible outcome. This factor of preëxisting tendency to insanity cannot be overlooked. It may be that a patient has never shown any palpable symptoms of this disease, but who can say that the seeds of the trouble do not exist? Those who cling to this theory certainly stand on strong ground, and their position is hard, nay impossible, to assail.

It is well known that women undergoing the change of

life are often subject to mental depressions and irregularities. In a few cases it is easy to imagine that the abrupt setting in of the menopause, due to the removal of the ovaries, is the cause. But then some of these patients have only had one ovary removed and in others the operation has been a plastic one and both ovaries are intact. Nor am I willing to concede, as some contend, that operations on the genital organs have a peculiar tendency in this direction; nor is the complication peculiar to operations on women, and their finer nervous organization. Mary Putnam Jacobi several years ago pointed out the fact that almost all works on surgery describe this condition under the name of "traumatic delirium," and she quotes a large number of authorities on the subject. The only series of cases which I have been able to find from which a comparison could be made, is contained in a yet unpublished paper by Dr. Joseph Leidy, Jr. (*Philadelphia County Medical Transactions*, 1891), the MS. of which has been kindly placed at my disposal. The cases were consecutive ones, observed personally by Dr. Leidy during the past four years in his services at the Pennsylvania and University of Pennsylvania Hospitals. All cases of operation on or about the head have been excluded. In but one case was there an inherited tendency to insanity. In no case was there any previous tendency to this disease. There are in all eighteen cases; of these, ten were males and eight were females—the proportion of men being greater than that of women. In not a single case of the ten men was the operation on the sexual organs. Of the eight women, four were breast cases and all were operated on for cancer of that organ. Of the remaining four women, two had operations on the sexual organs, one an amputation of the hand, and one a double amputation of the legs. From this analysis it will be seen what a small part the sexual organs play in the production of the mental disturbances. All of the breast cases were operated on for malignant disease. These cases

are notoriously in a bad general condition, and, as a rule, do not stand operations as well as non-malignant cases. It is much more probable that the general bad condition influenced the result, rather than the fact that the operation was on a part of the sexual system—if the breasts can truly be classed as such.

Although cases of severe mental disturbance do not occur with alarming frequency, yet a goodly number have been recorded, and there are many unrecorded ones. The form generally taken seems to be melancholia, but acute mania is not unknown, as my own case proves.

The prognosis is by no means certain. The majority of patients recover, but this is not an invariable result. The patients of Simes and Mundé are still insane. Kelly's patient died after five months' illness. Keith lost two, Thomas four, and Tait "a good many." My own patient died after eight days of acute mania.

As a matter of fact this whole subject remains obscure, but there are certain definite conclusions to which we can arrive, and on which future observations can be based.

1. Cases of serious mental derangement may occur after operations on patients without any previous personal or family histories of insanity.

2. Mental disorders are no more likely to follow operations on the sexual organs than on any other part of the body.

3. Such disorders occur just as frequently in men as in women.

4. Operations are at times the determining cause of mental derangements where there was no previous tendency to the disease.

5. Mental disturbances occurring a considerable time (months) after an operation are most probably independent of the surgical procedure.

6. The development of psychoses may follow in those cases

in which the convalescence from the operation has been perfect.

7. The existence of a predisposition to psychoses should stay the surgeon's hand, except in such cases as are urgent and necessary.

8. Mental derangements follow operative procedures with more frequency than is generally supposed.