ART. III.—MENSTRUAL NEUROSES.

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CASE I. *Cerebral anæmia, loss of consciousness, voluntary motions, and sensibility—epileptiform convulsions.*

MRS. B., aged twenty-eight; widow, no children; petite brunette; and, during the intermenstrual period, apparently healthy. The uterus is normal in size and position; no endometritis, no leucorrhea. The ovaries are not enlarged and not sensitive. She dates her trouble from the death of her husband, whom she nursed during a prolonged attack of dysentery during the intensely hot weather of Canton, in China. Upon the demise of her husband, she was menstruating, and the shock induced by the sudden and unlooked for catastrophe, in consequence of intestinal hemorrhage, threw her into a series of "fainting fits," which continued for more than thirty-six hours. This took place in September, 1871. From that date until February, 1875, she never passed a menstrual period without similar attacks, and had consulted various medical gentlemen in China and in Europe, with no amelioration of her symptoms. She returned to New York in January, 1875, and was borne off the ship in a very prostrate condition. I saw her in the evening of the day of her arrival, and then learned the above history from her brother, who was a physician. As this was the last day of the menstrual flow, and the symptoms had always subsided upon its cessation, I refrained from all treatment whatever, desiring to base the therapeutics upon such diagnosis as a future study of the case

might develop. One week afterwards the lady was subjected to a most rigid examination. Touch, conjoined vaginal, rectal and hypogastric palpitation, as well as the sound and speculum revealed nothing. The heart murmurs were feeble, and the apex beat somewhat lower than usual—venous murmurs were heard at the base of the neck. The diagnosis thus far was enfeebled heart walls, with possibly a little dilatation of the left ventricle. Subsequent examination of the urine, showed excessive phosphatic deposits, but no casts or albumen, therefore the ventricular enlargement could not be due to Bright's disease of the kidney. A subsequent study of this case one week afterwards, developed nothing more. The diagnosis then was anæmia of the medulla oblongata, in consequence of the menstrual molimen, which in turn reacted upon the cardiac and respiratory nerves, developed when menstruation was proceeding. Digitalis, manganese, iron and quinine were ordered, together with daily faradization of the entire spine, ovaries and uterus. On the ninth of February, she expected the catamenial discharge, and we awaited its return with great solicitude. She was ordered to keep the recumbent posture, to drink freely of milk punch, and under no circumstances to raise her head from the pillow. Hitherto these fainting spells had frequently been ushered in by marked convulsions of an epileptiform nature, the history of which went very far towards the formation of the diagnosis of anæmia of the medulla. Our hopes were disappointed, as she had a slight convulsion almost without premonition, followed by profound syncope. Anticipating this result, I had provided myself with the nitrite of amyl, and immediately administered eight drops by inhalation. In a few minutes the pallid cheek became flushed. She opened her eyes and stared at us in a semi-conscious state, in which condition she remained for fully a half hour, when twelve drops of the amyl were dropped upon a handkerchief and administered by inhalation, until there was marked injection of the conjunctiva and swelling of the veins upon the temporal regions. She now spoke somewhat incoherently, but soon complained of a sense of pricking of the face and fullness of the head. In forty minutes she had regained her consciousness, and was apparently free from her

usual syncopal symptoms. I then examined her by touch per vaginam, and found that menstruation was freely going on, (more freely, as she afterward stated, than it had been for many years,) possibly in consequence of the hyperæmic action of the nitrite of amyl, which I directed her brother to administer if the convulsive or syncopal symptoms should reappear. On the next day I saw her again, and the report was that she had had two slight fainting spells during the night, which were relieved in a few minutes by ten drop inhalations of the nitrite of amyl. During this day and for sixty hours subsequently, she inhaled every five hours, successively, eight, six, and four drops of the nitrite of amyl, without the reappearance of any of the former symptoms.

March 5th. Patient expects menstrual flow, as she has every symptom of the molimen, such as heaviness and fullness of the loins and pelvis, but none of the usual feelings of dizziness, floating objects before the eyes and tinnitus aurium. The nitrite of amyl was ordered in five drop inhalations every four hours, unless syncope came on, when twelve drops were to be administered. The flow did not come on, but patient awakened in the morning of the 6th with decided uterine pain, which was followed by the expulsion of a clot as large as a filbert, and succeeded by the menses. No faintings or convulsions. Nitrite of amyl continued as on yesterday.

March 6th. Menstruation in full process; no faintings or convulsions. Nitrite of amyl in three drop inhalations every three hours.

March 7th. Menstruation less, but patient has had one slight fainting spell, as she refused to inhale any of the amyl in the morning, having conceived a disgust for it. The inhalation of eight drops, however, promptly restored her to consciousness.

March 8th. Menstruation ceased, and six ounces of champagne ordered every six hours.

March 9th. Patient apparently well, but nauseated from the previous inhalations of amyl and the large quantities of champagne used on yesterday.

March 10th. Patient drove out, and feels very comfortably. At this date there are no heart murmurs or are there any ve-

nous sounds at the base of the neck, and the digitalis, iron, manganese and quinine were suspended. Routh's chloro-phosphate of arsenic in ten drop doses after each meal were substituted therefor. The faradizations of the spine, from this date until April 3d, were administered on every second day instead of every day.

April 3d. Menstruation at hand. Nitrite of amyl ordered as before,—no syncope and the patient slept well.

April 4th. Menstruation appeared. No syncope; no bad symptoms. Nitrite of amyl in five drop inhalations every four hours.

April 5th. Same as yesterday.

April 6th. Same as yesterday, except that the inhalations were given only twice, and in three drop doses.

April 7th. Menstruation ceased; treatment suspended. From this date until May 1st, the patient was faradized only once a week, and the arsenic was suspended on the 25th of April.

May 1st. Menstruation expected; no treatment.

May 2d. Menstruation appeared, but no bad symptoms.

May 3d. Menstrual flow proceeding freely; no bad symptoms.

May 4th. Slight vertigo, for which three drops of the amyl were given.

May 5th. Menstruation ceased; no treatment.

From this date until May 29th, no treatment was given, as the patient was apparently free from heart debility; was ruddy and florid, and very exultant over her condition.

May 30th. Menstruation appeared with no bad symptoms, and continued until June 4th. The patient was dismissed as cured. In February, 1876, she was married, and has had no bad symptoms since.

CASE II. *Paralysis of the right arm, supra and infra-clavicular region, and right breast.*

Miss A., aged 16, fair complexion, light hair, blue eyes, well developed and nourished. She had menstruated first when she was twelve years old. For the preceding year she had been confined closely in a boarding school, and had had five or six menorrhagic attacks, which lasted from six to ten

days. Her menstruation had usually existed but three days, was painless, and produced but very slight constitutional disturbances. She awakened one morning prior to an expected flow, and found that her right arm was paralyzed completely, with regard to sensation and partially, so far as motion was concerned,—the flexors and extensors of the fore-arm were immobile, but the whole member could be lifted by a conjoined fixatnre of the deltoid and triceps. Further examination showed anæsthesia of the right mamma, and the cutaneous surface as far as the sixth rib on the anterior portions of the right chest. I saw her some eight hours after she had first discovered the lesion. She was agitated and alarmed to an excessive degree, but there was no increase of temperature, slight acceleration of pulse, no headache, a slight dilatation of the right pupil, but no conjunctival or intra ocular hyperæmia. The attack was apparently reflex, and due to some derangement of the moleculær action of the cord, in consequence of menstruation. That the paralysis was not due to hemorrhage in the cord above the origin of the cervical nerves making up the brachial plexus, was apparent, as the lack of constitutional disturbance, the absence of pain, the previous history of the case, and the preceding menorrhagic attacks, pointed to pelvic origin. The prognosis was favorable, although the diagnosis was not completed until later in the day after the use of faradic electricity, to determine the contractility of special muscles, and of acupuncture to discover if the anæsthesia was universal. There was also a careful examination made of the pelvic contents. The ovaries were enlarged and tender, and the uterine body was swollen and sensitive. The treatment was a good drastic cathartic of aloes, calomel and hyoscyamus, together with hot vaginal douches. The purgative was followed on the next day by a slight menstrual discharge, but with no amelioration of symptoms. I refrained from further medication, as I believed that as soon as the pelvic fluxion, coincident with menstruation, would subside, that one or the other form of the paralysis would likewise disappear. Matters did not improve for four days more, and the menses were so slight, and the uterus was still so sensitive, that I determined to relieve the engorgement, if possible, by the abstraction of

blood from over the sacrum. Six wet cups were applied and twelve ounces of blood taken, and extract of cannabis indica ordered in half-grain doses, until the hemp intoxication would be manifest. On the following day she could move her fingers, and within a week, motion was pretty well established in the entire fore-arm, although the anæsthesia persisted. I then gave her the galvanic current every day for ten minutes, for more than three weeks, with a slight improvement in sensation, and as complete a restoration of mobility as could be expected where anæsthesia existed. Four weeks after, the next menstrual period was at hand, and a return of the paralytic symptoms was anticipated. Fortunately the flow set in very briskly, and on the third day it amounted to a decided hemorrhage, and the anæsthesia disappeared therewith. Here was a dilemma; the menorrhagia was excessive, and telling upon her general strength, and if checked, might invoke the reappearance of the paralysis. However, I ventured to give the aqueous extract of ergot in five grain doses, combined with one-third of the extract of the cannabis indica every six hours. After twenty-four hours, the drugs seemed to modify the flow, but on the second day the anæsthesia of the breast reappeared, and in spite of the galvanic and faradic currents, persisted until the next menstrual flow, when it subsided. The patient had had no more paralysis of motion when I last saw her, some two years since, but I learn by letter that if there should exist any retardation of the menstrual flow, the anæsthesia of the breast reappears, to again disappear as soon as the blood issues from the uterus in any excessive quantity. The uterus, during the inter-menstrual periods, was normal, not sensitive nor intumescent, but became swollen, œdematous (?), and enlarged, as soon as the catamenia set in, very much beyond the usual hypertrophy attendant upon menstruation. She was under my observation from June, 1872, to September, 1874.

CASE III. *Hæmorrhage from the nipple, mastodynia and intercostal neuralgia—Asthma and bronchial hemorrhage.* Mrs. D., aged 22, has borne two children, and up to date of observation, August, 1875, has never been irregular or troubled with her menstruation. She is a very dark brunette, remark-

ably strong and weighs over one hundred and sixty pounds. Her youngest child, if living, would be twenty-two months old. She has been menstruating ten months regularly and painlessly. Her menstruation was due in the latter part of July, and not making its appearance she fancied that she was again pregnant, particularly as pigmentation of the forehead, eyelids and breasts was very marked. On the third or fourth of August she took a cold bath, which was followed by acute pain in both mammary glands, with a decidedly knotty feeling of the left, as if one held a bunch of grapes in a thick napkin. The veins on the breasts are swollen and turgid, the pain over the region of the heart intense, but no abnormal cardiac sounds, and there is decided emphysematous respiration over the base of right lung. She spat about three tablespoonfuls of frothy blood and mucus during the examination. There is no increase of temperature and the pulse beats 120 per minute. The uterus is hard, retroverted, swollen and very sensitive, and the ovaries cannot be mapped out, although there is a very tender spot in the region of the left. The diagnosis was obscure, as she might be pregnant, and had contracted an acute capillary bronchitis in consequence of the cold bath, yet this was doubtful as there was no increase of temperature, and the frequency of the pulse might be due entirely to purely neuric causes. In the afternoon of the same day I was hastily summoned, and found that the orifices of the milk ducts were dribbling blood from the left nipple, and she was expectorating pure dark blood. Here was a case of so-called vicarious menstruation. I immediately opened one of the turgid veins upon the breast, and let out about eight ounces of blood, which relieved the mastodynia, the pain in the chest, and in a few hours there was no more bloody expectoration, nor was there any farther bloody dribbling from the nipple. She was ordered three drops each of the tincture of the root of aconite and veratrum viride every two hours, of which she took three doses, causing vomiting an hour after the last one, and her pulse came down to 70.

On the next day, menstruation came on, and with it a subsidence of the asthma and the other pulmonary symptoms. She had no return of these phenomena, but menstruated

within the next three weeks apparently as healthily as ever. I have seen one other case of hemorrhage from the nipple with intense mastodynia, in a young lady whose menstrual flow was suppressed by getting her feet wet in the snow. The nipple poured out blood at intervals for more than a day, and then subsided. She must have lost two ounces of blood during the progress of the discharge. Her next menstruation came on properly, but the breast continued tender and enlarged for several months.

CASE IV. *Suspension of menstruation on third day, followed by nasal epistaxis; Cerebral hyperæmia.*

Nov. 2d, 1876, I was requested to see Miss——aged 23, who was suffering from intense headache and vomiting. Her pulse was full, strong, and slow, beating 58 per minute. The face was flushed, the conjunctiva injected, and she stated that the pains about the temple and in the back of the head were most agonizing. She had menstruated regularly on the third day preceding, which had stopped, as was usual, in the morning of the day I saw her. As this had been her menstrual habit from the inception of the catamenial law she paid no attention to it, but the nose bleeding which always had been rather free, when the vaginal flow ceased, did not come on; and, instead of it, the headache supervened and increased in intensity, to such a degree as to be unbearable. She was ordered a hot mustard foot-bath, dry cups the entire length of the spine and hot turpentine stupes to the hypogastrium which did not give any relief. I then ordered leeches on the temples, which were objected to, as her mother thought they would leave marks, whereupon I bled her from the arm about eight ounces when the headache passed off. She then went to sleep quietly, and on the next day the menstruation reappeared as usual. This lady was in perfect health otherwise and has so continued ever since. The appearance of nasal epistaxis takes place upon the cessation of the flow on every third day, and on the fourth day the catamenia again reappear as usual. Here then was a case of cerebral hyperæmia, in consequence of peripheral pelvic irritation, relieved by the abstraction of blood from the general circulation, which nature habitually rectified by nose bleeding. I cannot

explain why menstruation should cease every third day, to be resumed on the fourth, why the local uterine hemorrhage should be supplemented by systemic discharge, other than upon the ground of certain changes developed in the cerebro-spinal axis. If the uterine hemorrhage of menstruation be entirely due to fatty degeneration of the mucosa and the blood-vessels ramifying through and underlying it, then there must take place some ischæmic paralysis of uterine structure, a species of uterine tetany of a very remarkable nature, more particularly as the health of the patient has never been impaired save in the instance just related.

The citation of the above cases clearly indicates that normal physiological menstruation is a neurosis indicative of anatomical change, degeneration of tissue and hyperplastic formation. It is coincident with, if not dependent upon ovulation, and the latest theory of independent uterine action without ovarian causation is not susceptible of proof. Periodical fluxions to the pelvic viscera, and so-called vicarious menstruations, as well as hemorrhages from the generative passages, have been known to take place where no uterus, or only a rudimentary organ existed. There is no well authenticated case on record where menstruation took place with congenital absence of, or undeveloped ovaries. That hemorrhage from the uterine cavity does take place after removal of both ovaries is a fact, but in the twenty-seven cases tabulated by Dr. John Goodman, of Louisville, up to 1872, there is one quoted from Peaslee's work on *Ovarian Tumors*, where the woman "*menstruated regularly from the cicatrix and vagina*" after the removal of both ovaries and the entire supra-vaginal portion of the uterus. Here is testimony that even the uterus is not necessary for so-called menstruation, but that the mere cervical cicatrized stump poured out the menses(?). Menstruation, or rather the periodical bleeding, implies a process of desquamation and fatty degeneration of the lining membrane of the body of the uterus, involving not only the mucosa but the vascular distribution as well. The case of uterine and ovarian removal proves only that the phenomenon of pelvic monthly periodical blood discharge, *once set up*, may continue when neither ovaries or uterus exist, but it is not clearly indicative that menstruation

is solely and peculiarly a uterine function inseparable from ovulation. One fact deducible from it, however, is that the stimulation of the vaso-motor system coincident with pubertic pelvic development once aroused, abides in the ganglionic system, similar to those molecular changes which take place in all of the ultimate cells presiding over automatic life.

From the cases enumerated by Goodman, as well as the four others gathered by Dr. Ely McClellan, of Louisville, and quoted by Dr. A. Reeves Jackson, of Chicago, in the October, 1876, number of the *American Journal of Obstetrics*, we do not feel warranted to believe that the ovulation theory of menstruation is absolutely the entire factor, nor do they establish the theory of uterine unity. So many cases are recorded where the function ceased entirely after double ovarian extirpation, that we are compelled to seek cause for menstruation in neuric origin; that the ovaries as well as the uterus are designed to complete the work as media, just as the liver is constructed to eliminate bile or the brain to evolve thought. The perversion or failure of developmental action in embryonic, fetal or pre-pubertic life, as well as pathological change after puberty, necessarily induce those alterations of menstrual function, which, for the want of a better term, I call *menstrual neuroses*.

All menstrual derangements are symptomatic of pelvic change, either in the ovary, the oviduct, the uterus, the vagina, the vascular system or the connective tissue surrounding and binding them together.

The generative system is also supplied with plexuses of nerves of remarkable intensity, and notwithstanding we have as yet not been enabled to demonstrate the existence of trophic nerves which govern and equalize the fluxionary movements, erectility, and subsidence peculiar to the female pelvis, we are positive of their presence. Emotional and physical causes arouse molecular nerve action in the woman's pelvis, evidenced by the sudden cessation of menstruation, or an equally sudden uterine hemorrhage, or the production of pain. We constantly meet with these phenomena in an apparently healthy woman, and can only explain the causation upon the basis of *ganglionic irritation* induced by molecular disturbance in the centripetal or centrifugal system, so intimately allied with the

trophic nerves. The subsequent morbid changes of structure are easily seen in the aplasia, kakaplasia or hyperplasia revealed to the chemist or microscopist.

Menstruation is peculiarly active in developing every variety of cerebral and spinal irritation, and sometimes involves psychical life to such a degree as to impair consciousness, perception and volition.

Until we actually trace the nerves and ganglia of the female generative circle to and from the cerebro-spinal centres, we must accept facts without being able to explain them satisfactorily, although we are positive that such intimate physical relations exist. Many psychical phenomena peculiar to woman's life depend upon impressions, stimuli or irritants conveyed to the cerebro-spinal centres from the pelvis, chiefly when menstruation is absent, suppressed, defective, excessive, obstructed or retained.

Amenorrhœa is present when there is no uterus or simply a rudimentary one; when there is absence or atrophy of the ovaries; when leukaemia or chlorosis exists; and, it is symptomatic of pregnancy as well as of that change of life denominated the menopause.

Dysmenorrhœa is symptomatic of difficult excretion of blood from the uterine cavity, and is found in every variety of flexion, version or stenosis of the organ.

Menorrhagia indicates a plus quantity of blood pouring from the uterine cavity in consequence of erosions, varicose vessels, ulceration, increased arterial supply, obstructed venous discharge, or general hypertrophic increase of the whole texture.

These morbid phenomena are explicable upon altogether different grounds from those enumerated as menstrual neuroses.