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HOSPITAL.

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MEMBRANOUS DYSMENORRHEA.*

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MEMBRANOUS DYSMENORRHEA is an affection which, although rather rare, commands very urgently the attention of the gynæcologist, because of the dreadful suffering which it gives rise to, and the obstinacy with which it has heretofore resisted treatment. There is a marked uniformity about this disease. In its pathology and clinical history it varies but little in different cases. A number of affections resemble this one to a limited extent, but it stands out well defined, and is easily detected by the experienced diagnostician.

Membranous dysmenorrhœa is an exfoliation in mass of the mucous membrane of the cavity of the body of the uterus at the menstrual period. Microscopically, the mass presents all the histological elements of the true mucous membrane of the uterus, including the utricular glands, unchanged by any new or abnormal elements. When it is expelled entire, it represents a complete cast of the cavity of the uterus, and is triangular, with an irregular opening at each of the angles, the one representing the internal os uteri, and the other corresponding to the ostia of the Fallopian tubes.

* Read before the Medical Society of the County of Kings, September 15, 1885.

This membrane is rather ragged on the outer surface, but smooth on the inner, and looks exactly as the lining membrane of the uterus does when in position. The size is usually about an inch long and less than that in width, and is generally somewhat larger than the normal proportions of the cavity of the uterus; but this is not always the case. In this respect it is apparently like the decidua of pregnancy; in fact, in general appearance it closely resembles the decidua vera, but there is a decided difference in its microscopic elements, sufficient at least to differentiate. This similarity of the two membranes has led to their being called the decidua grávida and the decidua menstrualis, the former being the mucous membrane as seen in abortion at a very early stage of gestation, the other the membrane as thrown off at menstruation in this morbid form.

Comparing the behavior of the mucous membrane in membranous dysmenorrhœa with its changes in normal menstruation, the difference is as follows: In normal menstruation, if we accept the views of Dr. Williams, of London, the whole mucous membrane undergoes fatty degeneration, disintegration, and elimination, whereas in membranous dysmenorrhœa the mucous membrane becomes separated from the walls of the uterus without being changed or disintegrated; exfoliation and expulsion simply occur. The way in which the separation of the mucous membrane takes place is not positively known. It is presumed, however, that fatty degeneration in the deeper structures of the membrane takes place, and thereby it becomes detached from the uterus. It is possible, also, that the capillary hæmorrhage, instead of occurring on the free surface of the membrane, takes place in the deeper structures, and in that way dissects off the membrane. This, however, is hypothetical, and needs confirmation. Sometimes the membrane is expelled in shreds, which suggests that the exfolia-

tion either occurs in spots or sections, or else that the membrane is completely separated from the uterus, but becomes broken up either during expulsion or in handling it afterward. It is much more probable that it is completely exfoliated and broken up subsequently than that it is separated in circumscribed patches. All these facts lead to the conclusion that the affection is a perversion of nutrition and function rather than an organic disease, inflammatory or otherwise, which gives rise to this peculiar behavior of the mucous membrane at menstruation. It is clearly evident that there is nothing pathological in the condition of the mucous membrane itself, but that the whole morbid process consists in the separation of the membrane in mass, in place of disintegration, which is the normal behavior of the mucous membrane in menstruation. There are other views regarding the pathology of this affection: one, that it is the result of gestation, which is arrested at a very early stage, and the membrane thrown off is really a decidua vera. That this theory is fallacious will be seen when we come to discuss the physical signs of this affection.

The idea that it is an inflammatory affection can not be sustained. No such product or result of inflammation is found elsewhere in the mucous membrane of the body, nor is it necessary that inflammation of any part of the uterus should be present in order to produce membranous dysmenorrhœa.

Associated with this membranous dysmenorrhœa we occasionally find inflammatory conditions, but not of the mucous membrane of the cavity of the body. There may be, and often is, a general hyperæmia of the uterus and vagina, but usually it is not greater than that which is seen in normal menstruation.

There is occasionally, in cases of long standing, cervical endometritis, but this does not extend to the body of the

uterus. In fact, I believe that a well-defined endometritis can not occur at the same time as membranous dysmenorrhœa. This affection, then, is certainly *sui generis*, and is not the result of inflammation in any form or any stage of the inflammatory process; neither is it a utero-gestation ending in abortion at a very early stage of pregnancy, as some have maintained; neither does the membrane partake of the nature of any of the morbid neoplasms which occur in mucous membranes elsewhere in the body.

The mucous membrane in this affection is developed in the natural way after each menstruation, and the gross appearances and histological composition of this structure show that it is normal, and differs in no way from the mucous membrane of the uterus up to the time when the menstrual flow is about to begin. Perhaps there is, in some cases, an increase in the quantity of the membrane, but only to a very limited extent, if at all. In short, the only pathological lesion in this affection is in the manner in which the membrane is thrown off.

SYMPTOMS.—This affection occurs in single and married women—about as often in one class as the other, perhaps. It also occurs in those who have borne children, but in most of the cases that I have seen in married women the patients have been sterile. The recurrence of the menstruation is generally regular; sometimes it is delayed, and sometimes there is a sense of pelvic discomfort before the menstrual flow, but not always. The chief symptom is the pain which comes on usually during the first day, sometimes later, and increases in severity and is somewhat intermittent in character until the membrane is expelled, when it rather abruptly subsides.

The flow sometimes is scanty previous to the expulsion of the membrane, and after that it is generally quite free; at times abnormally so, and occasionally small clots are passed.

Sometimes there is a leucorrhœal discharge succeeding the menstrual flow, the discharge being occasionally tinged with blood. In other cases the menstrual flow subsides after the expulsion of the membrane, and no leucorrhœa of any account occurs afterward.

There is really nothing in the clinical history of this affection by which it can be positively distinguished from dysmenorrhœa due to other causes. Hence the diagnosis must always depend upon the physical signs.

PHYSICAL SIGNS.—In order to make a diagnosis, it is absolutely necessary that the membrane expelled should be preserved and examined. The gross appearances of the specimen are usually all that is necessary to satisfy the diagnostician regarding the nature of the affection, but in cases where there is a doubt the microscope must be called in to aid in the diagnosis.

The morbid materials expelled from the uterus which simulate the membrane produced in this affection are the decidua expelled in abortion in the earliest stages of pregnancy; the masses of fibrin which have formed in the uterus in menorrhagia; very dense masses of secretion from the cervix; and the membranous-looking shreds expelled from the cervix and vagina after astringent or caustic applications.

The decidua in early abortion is most difficult to distinguish from the menstrual membrane. In the early abortion the membrane expelled is usually larger and more ovoid or round, and not so markedly triangular as the decidua of menstruation, and is also thicker, and usually is accompanied with villi of the chorion. If there is still a doubt, the microscope reveals that the menstrual membrane shows only small cells, while those of the decidua-*vera* membrane are so great as to be easily distinguished. There is a decided microscopic difference in the epithelium, the tubes,

and the inter-glandular tissue. This difference between the two membranes is not only in the decidua of early abortion, but also in the decidua of extra-uterine pregnancy. In being thus able to distinguish between the decidua of pregnancy and the membrane of menstruation, the only great difficulty in the diagnosis is overcome.

The shreds of fibrin expelled from the uterus sometimes look membranous in form, but have none of the structure of the mucous membrane, and hence can be detected on cursory examination. The same may be said of the masses of unusually dense secretion of the cervix. The membranous shreds that come from the cervix and the vagina as the result of astringent and caustic applications resemble at first sight the menstrual membrane. The most perfect of these exfoliations from the vagina I have seen after the use of the persulphate of iron; these specimens, however, are much thinner and differ entirely in structure, being made up mostly of epithelium, and therefore need not be mistaken for the menstrual membrane.

With due attention to the membrane expelled, the diagnosis can be made with great certainty.

CAUSATION. — Discarding the current views regarding membranous dysmenorrhœa—that is, that it is due to inflammation, or else the result of gestation—one is left without any very rational views to offer regarding the causation of this disease. While it is not, perhaps, the part of wisdom to discredit the accepted views on any question in medicine until one has something more reliable to offer, still, if the causes assigned can be readily shown to be incorrect, it is infinitely better and safer to be entirely in ignorance of the causes of things than to attribute them to the wrong causes. Fortunately, however, while I find myself at variance with most of the recent authorities regarding the cause of this affection, I am in perfect harmony

with the views of Dr. Oldham, who was the first to discover dysmenorrhœa membranacea.

Dr. Oldham distinctly pointed out the characteristics of this affection and stated that the membrane was formed under the ovarian stimulus, and I am fully satisfied that he was not only the discoverer of the disease, but also conceived the true idea regarding the cause of it—viz., some undue or abnormal ovarian influence or sexual excitation. In other words, it would appear to be some derangement of innervation and nutrition.

Taking this view of the causation, I expect to find myself in harmony with the neurologists at least. This class of specialists manifest a willingness to trace many diseases originally to some derangement of the nervous system, when they find anything like good reasons for so doing. Hence, I expect their support in choosing, as I do, to believe that the starting-point in the pathology of this affection must be some derangement of innervation produced by disease of some associated organs like the ovaries. We might find confirmation of this view regarding the cause of membranous dysmenorrhœa in studying the agencies which give rise to other morbid states of the uterus, like the fibroid growth for example, which in its anatomical elements does not differ especially from the tissues of the uterus from which it springs; and, if we could find the cause of this deviation from healthy nutrition, it might be applicable to the disease under discussion. But, unfortunately, the causes of fibroid tumors given in our literature are unsatisfactory and by no means well sustained.

From the fact that uterine fibroids are more common in sterile women than in others, it would appear that sterility predisposes to their development, and perhaps no better explanation of the cause of these growths has ever been given than that of my somewhat humorous friend, who said that

“the uterus, being prepared for normal work and not finding it to do, took up the development of fibroids as a sort of outlet to its formative powers.” May it not, then, be that a well-defined predisposition to reproduction, uncalled for by gestation, excites this morbid action on the part of the uterus which leads to this abnormal exfoliation of its mucous membrane? This view might at least be entertained, because in other cases, when we are unable to detect the cause of a disease in something that is tangible, we usually attribute it to deranged innervation and consequent malnutrition. This view of the causation is, to some extent, sustained by the effects of medicines upon the lesions. This affection has always been recognized as one that is often difficult to cure, many times incurable, in the hands of the most competent physicians and surgeons. This possibly may have been due to misapprehension of the nature and cause of the disease, and hence fallacious therapeutics, rather than to the incurable character of the disease.

In favor of this line of thought I may state that the patients whom I have treated in years past, on the theory that the cause was inflammatory, have derived little benefit, while those who were treated for deranged innervation, malnutrition, and undue ovarian excitation, have made very much better progress. I am inclined to attribute most of the trouble to ovarian influence, the condition of the ovaries being that of an undue nerve excitation and possible congestion. I have been led to this belief by two facts: that the majority of the patients that I have seen have been subjects of a highly nervous organization, and in most of them there has been tenderness of the ovaries, and pain at times in them, without there being any evidence of their having ovaritis.

The rheumatic diathesis is said to favor this affection, and it is possible that that may be so, although I am unable

to recall any of my patients as being rheumatic ; neither have I been able to trace this to the tubercular or strumous diathesis, nor to syphilis. It is certain, however, that, if either of those conditions existed, they would have their influence in helping to keep up the uterine trouble, and every effort should be made to relieve them by treatment.

TREATMENT.—The treatment of this affection is necessarily both palliative and curative. While the patient is suffering during the expulsion of the membrane, it is very necessary to relieve the pain as far as possible. This, of course, can be most promptly done by the use of opium, which should be avoided if possible, however, because of its after-effects.

Chloral hydrate answers fairly well in some cases. I was induced to try this agent by the accounts given of its effects in relieving the pains of the first stage of labor. I am not sure that it has any advantages over chloroform, camphor and belladonna, or conium and *Cannabis indica* ; in fact, in the majority of cases, one has an opportunity to try several agents, and, of course, the patient will decide which gives most relief. Indications for general treatment are to quiet all nervous disturbance and to improve the general nutrition of the mucous membrane. It so happens that when the first part is attended to the latter will follow in due order.

To quiet the nervous irritation and disturbance there is nothing that equals the bromide of sodium. This should be given in twenty- or thirty-grain doses three times a day for ten days or two weeks before the menstrual period. And, if the pain is not severe enough to require the addition of some of the remedies already named to relieve pain, it may be continued throughout the menstrual period and several days after. From this it would appear that the bromide is to be used continuously ; but one or two weeks

in each month it can be omitted. When the bromide has been employed for some time, and it seems desirable to give it up, conium may be given in moderate doses combined with camphor, if the patient is weak. If there is any evidence of the rheumatic diathesis, the bromide of lithium should be given. Next to quieting the nervous system, any debility that may exist should be overcome by nerve tonics. Undue nervous excitation so often goes hand in hand with nervous depression that in many cases it is necessary to combine the tonic and sedative treatment. All the remedies which may be used need not be here mentioned. In regard to the modification of nutrition, it need only be said here that any accompanying derangements of the digestive organs that may be found should receive careful attention; but this hardly need be mentioned in this connection.

My rule of treatment has been, after subduing all nervous disturbances, to put the patient upon the iodide of sodium in case she is in fair strength and inclined to flesh. If there is anæmia, I prefer the iodide of iron. If these did not accomplish the object, I have employed mercury, giving it in small doses, never continued long enough to produce salivation, carefully watching to avoid this. In cases of anæmia, where I have feared the debilitating effect of this alterative, I have given the bichloride of mercury with iron. After keeping them upon this treatment until I could see some evidence of its effects, I have then put them upon iodine and arsenic.

In regard to local treatment, I have been entirely guided by the views of pathology expressed above, and have therefore employed alteratives and sedatives almost exclusively. Of these I have found iodoform most effectual. I have also used iodine and mercury with advantage. In cases where I have found any complications I have carefully attended to

them, restoring displacements and correcting flexions, and so on. When the canal of the cervix has been at all constricted I have enlarged it by incision and dilatation.

When the congestion which occurs at the menstrual period does not subside in a few days, I have employed the warm-water douche. After this, I have applied to the cavity of the uterus small bougies of cocoa-butter with as much iodoform as it would take up. Three or four grains of iodoform mixed with vaseline that has been liquefied by heat, and introduced through the pipette, is perhaps the best method of applying it. These have been introduced once a week or once every five days. When there has been much tenderness, and the use of the pencils has caused pain, I formerly used aconite and opium and iodine; this I have introduced into the cavity of the uterus. I am now trying cocaine to subdue the tenderness as a preparatory means to the use of the iodoform. But so far this new remedy has not been a perfect success.

In cases where this has failed and the uterus was not especially sensitive to intra-uterine medication, I have instilled into the uterine cavity a few drops of a five-per-cent. solution of carbolic acid, making one application a few days after the menstrual flow and not repeating it until the next period. In the interval I have used the iodoform. I have also used the fluid extract of conium and *Hydrastis canadensis*; but this I have found gives more pain than any of the other applications that I have used; and so of late I have used an infusion of the hydrastis alone, which appears to answer as well and gives less pain.

CASE I.—*Membranous Dysmenorrhœa in a Married Lady who was never Pregnant.*—This patient was forty-one years of age, of good constitution, and had been married eight years. She began to menstruate at thirteen, and continued to do so regularly and normally until she was twenty-one; then she be-

gan to have occasional pain, about the menstrual period, in the region of the ovaries. About a year after this she began to have severe uterine pains during the menses, and states that she occasionally passed masses that looked like membrane from the uterus; they were small, however, and did not occur at each period.

After her marriage the pain at the menstrual periods became worse, and almost every month she passed a membranous cast of the uterus. The usual history of each menstruation is that the flow begins not very free, and, after continuing for about five hours, the pain becomes very intense and lasts from three to eight hours, when she expels the membrane and the pain subsides, the flow continuing for a day or a day and a half after the membrane has been expelled.

The flow, taken altogether, is not profuse, and only lasts from two to two and a half days, while formerly—that is, before her dysmenorrhœa began—it used to continue from four to five days. When first seen, her general health was good, but she was rather hysterical and nervous, and was somewhat depressed and disappointed because she had not had children.

She described her suffering at her menstrual periods as something unbearable, although it did not last more than a few hours at a time. She was first examined midway between the menstrual periods. The uterus was then found to be normal in size and in good position. The internal os was rather sensitive and appeared to be slightly contracted; there was also an extended Nabothian gland in the middle third of the cervical canal, but the uterus presented a normal appearance in every other respect. There was no congestion; in fact, at this time the mucous membrane appeared rather anæmic.

The diagnosis was left an open question until the next menstrual period, when I obtained the membrane expelled and had it examined by my friend, Professor Frank Ferguson. His report stated that the specimen was uterine mucous membrane unchanged in its histological composition. This settled the question of diagnosis.

Careful inquiry elicited the fact that she had never been pregnant, so far as I could rely upon her testimony, which I be-

lieve to be accurate because of her great desire to have children. I also learned that on several occasions she had lived apart from her husband, who was of necessity absent on business for several months at a time, and that she suffered just the same, and at each month there was an expulsion of membrane, showing conclusively that there was no possibility of mistaking this affection for pregnancy and abortion.

The treatment consisted, first, in placing her upon the following mixture: Half a grain of the bichloride of mercury, one drachm of the solution of the chloride of arsenic, three drachms of the tincture of iron in a three-ounce mixture of syrup and water. A teaspoonful of this was given, well diluted, after each meal. At the same time the internal os was incised superficially in three places, dividing equally the circumference of the canal, and the distended Nabothian follicle was punctured and evacuated.

A week after this a sound was introduced of full size, and there was less tenderness; the tincture of iodine was then applied from just within the internal os downward. At the next menstrual period she had less pain, but it lasted just as long, and she passed a membrane unchanged, except it did not appear so thick as formerly.

From this onward the local treatment consisted in passing a full sized sound just beyond the internal os right after the menstrual period, and again in two weeks, and in nearly every six days about two grains of iodoform mixed with vaseline was passed into the cavity of the uterus, well up toward the fundus. This local treatment was continued without interruption for three months, and the first prescription, after it had been taken for two weeks, was followed by the iodide of iron, a grain and a half three times a day.

After the second month, and at her third menstrual period from the time that treatment began, she had no pain and passed no membrane. At the next period she passed several shreds, but nothing like a complete cast of the uterus.

The constitutional treatment, that is, alternating between the first prescription of mercury and arsenic and the iodide of iron, giving the first one for two weeks, and then the other, was con-

tinued for two months longer. The application of the iodoform was continued for one month longer, once every week, and once after her menstruation, at the end of the fourth month of the treatment. Since that time she has had no further trouble; her menses are regular, lasting about three days and entirely without pain or any discharge of membrane.

That was her record at least one year after she gave up treatment, since which time I have not heard from her.

CASE II.—*Membranous Dysmenorrhœa occurring after Treatment for Antelexion and One Miscarriage.*—A lady of very high culture and over-refinement, of a well-marked nervous temperament, but otherwise of good constitution, came under my observation when twenty-eight years of age; she had then been married a year and a half. She menstruated first at fourteen years, and continued to do so regularly, but with pain from the very beginning. The pain usually began a day or so before the flow and gradually diminished after. Her suffering at each period gradually increased until her marriage, when it became more severe. This, and the fact that she remained sterile, induced her to seek advice. I found her suffering from antelexion of the body of the uterus and cervical endometritis; there was also tenderness of the left ovary on pressure. She was treated for the flexion and completely recovered. The dysmenorrhœa was entirely relieved and she became pregnant. During her pregnancy she suffered very much from morning sickness, and at the end of the third month began to show some signs of septicæmia; she then miscarried, and the ovum was found to be macerated, and probably had been dead *in utero* for two weeks. She recovered from this and was quite well for about a year, when her dysmenorrhœa returned; she then returned to be treated for what she supposed to be a recurrence of her former trouble, but I found no evidence of the former flexion. But, on inquiry, I found that she passed at each period a membranous cast of the uterus. The patient thought little of this, because, in former years while suffering from the dysmenorrhœa caused by flexion, she occasionally passed small clots which looked somewhat membranous in character, but no doubt were simply blood-clots.

She was placed upon treatment similar to that employed in the first case reported, except that there was no necessity for enlarging the internal os as in the former case, the only difference in the local treatment being that I used iodine in place of iodoform during the last two months of the treatment; and once, immediately after her menstrual period, I applied a mild solution of carbolic acid to the uterine cavity.

She did not again pass any membrane after the third month of treatment, and her pain from menstruation entirely disappeared.

She was dismissed at the end of four months, and two months afterward reported that she was pregnant. Three months after that time she was examined and found to be so, and was progressing well. Since that time I have not seen her, but heard that she gave birth to a healthy child.

CASE III.—*Membranous Dysmenorrhœa treated by Dr. For-dyce Barker, of New York; Complete Recovery.*—I give the history of the following case for two reasons: First, to show that iodoform was employed in the local treatment, and that the patient's recovery was complete; and also to take the opportunity of stating that I believe that Dr. Barker was the first to employ this agent.

The history is not altogether complete, because I obtained it from the patient herself, who was unable to tell all that was done for her; but I know positively that she suffered from dysmenorrhœa, and that she entirely recovered under the care of Dr. Barker, and has remained well for a number of years.

This was an educated lady of a well-marked nervous temperament; she began to menstruate at thirteen, and continued to do so normally until she was twenty-six years of age. At that time she was said to have had an acute attack of ovaritis, and after recovering from that she had dysmenorrhœa.

The character of the pain at her menstrual periods then appeared to be ovarian. After suffering in this manner for about four or five years she noticed the expulsion of membranous casts of the uterus at the menstrual periods. During this time and for a year afterward she was regularly treated by her family physician, but without relief. She then consulted Dr. Barker for her general ill-health, but did not call his attention to her

derangement of the menstrual function. She improved in her general condition under his care, but found no relief from the membranous menstruation. She consulted him again and called his attention to the uterine trouble, and he immediately placed her under treatment.

The constitutional remedies employed I do not know, but the local treatment consisted in dilatation of the cervical canal and the application of iodoform to the uterine cavity.

She continued to pass membrane for several months; then the trouble ceased and has not returned. She now menstruates regularly and naturally, and has done so for over two years.

Several other cases might be added, some showing failure of treatment, and others where the patients were really made worse by being treated for inflammation of the uterus which was supposed to be the cause of the trouble, but undoubtedly was not. Other cases might be given, also, in which recovery took place, and after several months or years the trouble returned, but they would add nothing to the views already given regarding the pathology and treatment of this affection.

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