DYSMENORRHŒA

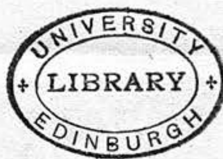
—AND—

OÖPHORITIS

—BEING—

THISIS FOR THE EDINBURGH UNIVERSITY M.D. DEGREE.

By J. OSBORNE CLOSS, M.B., C.M., Edin.



Mills, Dick & Co., General Printers, Octagon, Dunedin.

1892.

To the Dean of the Faculty
of Medicine, University of Edinburgh.

Sir

Your memorandum of April 29th to hand this morning informing me that my thesis is not in accordance with the regulations:- being printed, and not on the proper size of paper. This I much regret but I was quite unaware that there is such a regulation in force.

As I say I only received the notice this morning and the outgoing mail leaves early this after=noon so that I have not the time to write my thesis out in full, and therefore take the alternative of pasting the print on the proper size of paper which I hope will be satisfactory.

George St
Dunedin N.Z.
June 22nd 1892

Your obedient servant
J. O. Close

MEMORANDUM.

From the

Dean of the Faculty of Medicine.

To J. O. Closs, Esq., M.B.,

In reply to your letter of April I beg to state that the Thesis sent by you in printed form is not in accordance with the Regulations for Theses, and the Dean insists that you must either write it out in full, or paste each separate page of the print on the proper size of Thesis paper, a memorandum of the size being enclosed. Kindly return this at your earliest convenience.

p. Dean,
J. O. Sinclair

April 29, 1892

DYSMENORRHŒA

—AND—

OÖPHORITIS

—BEING—

THESIS FOR THE EDINBURGH UNIVERSITY M.D. DEGREE.

BY J. OSBORNE CLOSS, M.B., C.M., EDIN.

MILLS, DICK & CO., GENERAL PRINTERS, OCTAGON, DUNEDIN.

1892.

DYSMENORRHŒA & OÖPHORITIS.

While I recognise that it is a good thing for clinical purposes and for convenience to differentiate dysmenorrhœa into certain classes, according as near as possible to its cause, yet I am of opinion that so closely are the ovaries, tubes, and uterus related to each other during the menstrual act, that none of these organs can be considered as envolved to the perfect immunity of the others. Therefore, in treating of the subject as set forth above, I prefer to take the term dysmenorrhœa, without holding to any distinct classification, whatever may be the cause, or wherever the seat of pain.

It is, however, principally my object to set forth in these pages, as far as possible, the relation between dysmenorrhœa and inflammatory changes in the ovaries in cases that have come directly under my observation and treatment.

If dysmenorrhœa were a disease, associated with the uterus alone, one would naturally suppose that, as that organ is easily within reach and treatment, such a painful affection would speedily succumb to the remedy; but how often is it otherwise! How often is the treatment of the disease, indicated by this painful symptom, undertaken with but little hope of success! From the very fact that the cause is frequently unknown or only guessed at, or again if it be known, it is sometimes situated beyond all palliative measures, and operative interferences, often of a very serious character, are resorted to.

I admit that in cases of os atresia, and in flexions of the uterus, minor operative treatment does a deal of good, specially so if done in time; but even these minor operative measures are often fraught with danger to the patient from inflammatory mischief that may ensue in the pelvic cellular tissue, or peritoneum and adjacent organs, in which case the dysmenorrhœa

will be worse than ever. True, there are many successes due to the use of the metrotome or treatment of flexions in suitable cases, but, as I have just said, it will much depend not only on the way in which the treatment is applied, but, what is of equal importance, the time at which it is done.

To my mind, as soon as either os atresia, or some flexion of the uterus, is diagnosed to be the cause of the dysmenorrhœa, or if only an important factor in that cause, immediate operative interference is imperative, and if undertaken with all due precautions is very likely to give gratifying results. But, frequently, from delicacy or some other like reason, this treatment is deferred, and perhaps after months or years of suffering the operation is at last undertaken, but is proved from the continuance of the dysmenorrhœa to have been done "too late in the day."

I am persuaded that it is this delay in taking decided action that accounts for much, if not all, of the marked pathological changes that are found in the tubes and ovaries of cases with this history.

My experience is that dysmenorrhœa indicates an abnormal condition of affairs not to be lightly treated, specially so in young girls and married, nullipara, which, if continued and neglected, the ovaries and tubes are the organs that will afterwards tell the tale. I do not for a moment wish to convey the idea that I think os atresia, flexions, and exfoliation of the uterine mucus membrane are the sole causes of dysmenorrhœa, although they do seem to account for many cases; for there can be no doubt but that after these mechanical obstructions are removed, menstruation in many is at least rendered tolerable. One might with very good reason ask, how so? For it is well known that there are many women who have os atresia, or flexions of the uterus, yet menstruate regularly and suffer no pain. So that one is driven to seek other reasons for painful menstruation. Naturally, one turns to the pathologist as much as to the specialist for light on this question, but not with much success. As yet much is shrouded in mystery; certainly much has been

done in the pathology of the ovaries and tubes, but much yet remains to be told as to the causes of dysmenorrhœa.

In exfoliation of the uterine mucus membrane there seems to be a well-recognised cause of pain, more especially if complicated with flexion or narrow os. But why in some cases the uterine mucus membrane should be shed in pieces that are easily recognised by the naked eye, and in others, if shed at all, not recognisable in the menstrual debris, and yet in the latter there may be just as much pain as in the former, although the uterine passage is perfectly patent. The case, for instance, which Schultze relates—in which the uterine passage and outlet were sufficiently large to admit the free passage of a sound before the menses appeared, and yet the patient was suffering agony—is a good case in point.

I cannot say that such an extreme case has ever come under my personal observation, yet I am sure I have had many that closely approach it, which, when the menses have fairly started the acute pain subsided, leaving only a dull heavy feeling as a result of the excessive congestion and severe pain.

Such cases must indicate a certain hyperæmia of the uterine mucus membrane and the immediate neighbouring organs, with probably some tissue change in the mucus membrane itself—differing from the recognised normal type—whereby the outlet of blood from its surface is hindered, causing the uterus to contract and engorge itself more and more until the distended vessels rupture and give relief.

I have observed in cases of membraneous dysmenorrhœa that I have had in which the shreds and tatters of uterine mucus membrane were clearly visible to the naked eye, and further demonstrated as such under the microscope, in which there was the appearance of a highly congested membrane differing from the normal type, inasmuch as it was thicker, with an abundance of connective tissue, hypertrophied blood vessels and glands, smooth on the free side, without appearance of cilia or epithelium, somewhat ragged and rough on its lately attached surface, with plenty of connective tissue and some muscular fibres, the whole having a highly vascular appearance.

In the cases that have applied to me suffering under this condition, I have invariably used the metrotome, if os atresia were present, and Hegar's dilators in cases of flexion, with careful use of stem pesseries afterwards, till complete patency of canal was established. In suitable cases too, I curetted the interior wall of the uterus, using strict antiseptic precautions; but I cannot say that this curetting did much good, as portions of membrane were seen at subsequent menstruations; but their exit was facilitated by the patency of the canal, and the dysmenorrhœa was generally much less than formerly.

There is one condition about these cases which struck me as somewhat peculiar, and that is the extraordinary rigidity of the internal os, which resists the entrance of the dilators to such a degree that occasionally the muscular fibres tear rather than yield. It is at this point too, where the divergence takes place between the mucus membrane of the cervical canal and that of the body of the uterus.

I have thought that it may be probable that here starts some structural divergence from the usual type, such as a greater abundance of connective tissue about the muscular fibres, or some physiological resisting power in the fibres themselves peculiar to such uteri, imparting to the mucus membrane a greater thickness and resisting power (on account of the increase of connective tissue), and, as a consequence of this, delaying the sanguineous exosmosis and generating a greater tendency to spasmodic contractions of the uterus. I am inclined to hold by the theory that the uterine mucus membrane is not shed at each period of menstruation as a normal and natural process, except in regard to its cilia and epithelium; and when mucus membrane is shed entire or in pieces, it is a deviation from the normal type.

Very much, I think, of the dysmenorrhœa which seems as yet unknown in its cause might be found in the resisting power, either in the walls of the capillary vessels or in the mucus membrane, to the natural sanguineous exosmosis. If vascular tension be maintained against uterine mucus membrane, it would act on the uterus very much like a foreign body, inducing

contractions of the organ. This structural alteration of the mucus membrane from what is recognised as the normal type may in some cases be a natural and physiological condition, while in others it may be due to some misplacement of the organ, or some cause, either local or constitutional, so acting on the mucus membrane as to materially alter it in structure, giving greater resistance to the blood tension, thus causing pain.

This leads to the consideration as to what effect this state can exercise on the ovaries. So closely are these organs associated with the uterus during the catamenia, that they must partake of the congestive state of the latter pari passu.

The process of ovulation renders the ovaries the most important organs affected at or about the period of menstruation. They then undergo a natural physiological change, which in some cases amounts to an abnormal hyperplasia. They become enormously congested, their veins enlarged, and in cases of dysmenorrhœa they are affected reflexly, in addition to what pain may be endured by their own inflamed and congested state. If this condition be allowed to repeat itself again and again, hypertrophy of the organs ensues, then, perhaps, atrophy, and finally they are so altered in structure that their normal and physiological functions are utterly destroyed.

If on the other hand there is no obstruction to the blood flow by the natural channels, but there is menorrhagia accompanied by hyperæmia of the ovaries, it is generally found in such cases of ovarian activity that the sanguineous discharge is free and copious, giving rise to no more discomfort than a feeling of weight and tenderness in the region of these organs, and probably a sensation of weariness from the loss of blood. In such a case the ovaries present a condition of affairs closely allied to acute oöphoritis. It is generally found in young emotional girls. I have also found it often, I may say, in young married women, and sometimes in mothers of one or more children. It is an abnormal hyperæmia of the ovaries, and if not arrested will have a tendency to induce ill-health, principally from anæmia, or perhaps what is worse, pass into the chronic

state of oöphoritis, with probably a dislocation of one or both ovaries into the *cul de sac* of Douglas.

Mr Lawson Tait is the only author I am aware of who has separated this condition from acute oöphoritis and given it a class of its own.

Barnes, however, has recognised this condition of the ovary when speaking of a case under the head of dysmenorrhœa. He said that the flow was indicative of more than a simple hyperæmia of the ovary. Clearly, therefore, he recognised a hyperæmic state of the organ as distinct from acute or chronic oöphoritis, but has not considered it of sufficient importance to give it a distinct class.

Atthill has said—" I am satisfied that a condition of ovarian irritation short of actual inflammation, but in which there is a certain amount of congestion present, is not an infrequent cause of menorrhagia,

Winckel, in the first lines of his opening chapter on Oöphoritis has said that inflammation of the ovary may follow hyperæmia and apoplexy of the organ.

Mr Tait has used a term which I think fully explains many cases which, not exhibiting sufficiently pronounced symptoms to classify them under acute oöphoritis, yet possess sufficient indications to show that they are closely related to that disease.

As far as my experience goes, the majority of women who have consulted me for menorrhagia and hyperæmia of the ovaries, have been married, and some of them, as I have said, the mothers of one or more children; and I am thoroughly convinced from the examinations to which I have subjected my patients, that menorrhagia can be caused by other means than tumours, polypi, sub-involution, displacement, malignant disease, or chronic inflammation of the ovaries. In nearly every case they complain of a dull heavy feeling in the region of the ovaries, tender on pressure, and on examination per rectum the ovaries are found swollen, and very tender to the touch, and apparently everything else about the pelvic organs quite normal, although I could not be certain but that some of them at one time or other might have had an attack of pelvic peritonitis of

more or less severity. Therefore diagnosing, by elimination, it is quite clear that the ovaries are the offending bodies, and if they have not taken on the acute form of oöphoritis, they are at any rate in that state designated by Mr Tait as simple hyperæmia.

The cause of menorrhagia in young girls and in some married women too I think is due, in a great measure, to a high-strung emotional temperament in which the sexual emotions play a most important part. Whatever these patients or their friends may think to the contrary this psychological factor must be taken into consideration. I have found good doses of bromide with nitrate of silver or ergotine and perfect rest at the time of the catamenia very beneficial. It may, however, be necessary at times to interfere with such patients' social habits and pastimes, and if not absolutly prohibit all such as are likely to abnormally excite the emotions, at any rate a considerable restraint must be exercised, or therapeutical treatment will be in vain.

I have mentioned this hyperæmic condition of the ovaries because I recognise in it a factor in the cause of acute oöphoritis, and its discussion a fitting introduction to that phase of the disease.

What pathology we do know regarding acute oöphoritis goes to show that it is the follicles of the ovary that are principally affected. There is, however, another form of inflammatory action of the organ in which the stroma or interstitial element is the part affected, but even in this latter form I am inclined to think, and both the physiological action and anatomical structure of the organ will support the theory, that the interstitial form is never a primary inflammation, especially when it (the inflammation) starts *de novo* in the organ; or the result of continued hyperæmia, but is secondary to the inflammation and destruction of the follicles. It is probable, however, that both forms of inflammation may take place simultaneously in the organ when the cause arises from some form of pelvic inflammation setting up first of all, perioöphoritis which may spread to the stroma and the follicles, or the latter may become affected by the excessive hyperæmia of the organ. In this way I can conceive of both forms of tissue change taking place at the same

time, and when the process has progressed so far as to destroy follicles and set up a proliferation of interstitial tissue it has passed from the acute to the chronic form. We know for a certainty that the interstitial tissue largely predominates in chronic oöphoritis, and this is invariably verified by the actual specimens when such can be procured by operative means or at post-mortems. The specimens obtained by operative means are preferable, because they are then unaffected by any other disease which may prove fatal and might alter the condition of the ovaries prior to death. I have several specimens of ovaries and tubes which I have removed from patients by abdominal section, who have suffered for years from chronic oöphoritis, and it is clearly seen that the interstitial element is largely predominant, indeed there is nothing else to be seen except a few cysts, which are probably the remains of over-distended follicles.

We can all see the difficulty there is in getting a true pathology of the acute form of oöphoritis. The organs are never removed for that phase of the disease, so that the only information we have concerning it must come from the post-mortem room, and this is not satisfactory for the reasons I have just given.

Again, I believe there are a large number of post-mortems made in which the ovaries are never looked at from the reason that there never was thought to be anything the matter with them during life. Prof. Thomas has given us a table taken from Henning in which he says that out of 100 necropsies, in 10 diseases of the ovaries could or were made out during life; and again, out of 81 necropsies, there were 53 cases of diseased ovaries which were not diagnosed during life.

As regards the etiology of acute oöphoritis, one probable cause I mentioned when speaking of the excessive hyperæmia of the organ. If this be so, I should be inclined to take it as a form of inflammation originating within the organ itself, induced probably by dysmenorrhœa. As far as I am concerned myself, I must say that I have not yet had a sufficient number of cases or sufficient experience to speak with any decided tone on this point.

We are all aware that injury to the ovary, gonorrhœa, pelvic peritonitis, pelvic cellulitis, and such like direct or indirect causes, are often the immediate excitants to an acute attack of oöphoritis. I cannot remember ever having met a case arising from direct injury of the ovary. These organs are so well protected from external violence, that an inflamed condition from that cause must be very rare. I have to my knowledge met with one case of bad oöphoritis arising from latent gonorrhœa in the male, and as the case is an interesting one, I will give its history in as few words as possible. Some time before marriage the husband contracted a gonorrhœa. He understood himself to be cured, and that no harm could come of getting married. A few days after marriage the wife was seized with a severe burning pain in the region of the left ovary, which ultimately compelled her to seek medical advice. From then till the time she came under my care, which was nearly two years, she was more or less an invalid. At the time of her catamenia she suffered a great amount of pain, laying her up in bed for several days. On examination both ovaries were very sensitive to pressure, the left more so. This could be felt per rectum to be enlarged, somewhat flabby, and exquisitely tender. The catamenia was very irregular, very profuse, and caused, as I have said, great pain. The uterus slightly anteflexed; at times she would suffer from pelvic peritonitis, during which attacks the right ovary felt painful. After a severe attack of pelvic peritonitis, a pyosalpinx formed in the left Fallopian tube. During this attack the right ovary became decidedly affected, and was even more painful than the left. The next time her menses appeared there was some pus, and at the end of a week nothing remained but a purulent discharge. The distended Fallopian tube could be easily felt, but as the pus got free discharge *per via naturalis*, she improved a good deal. Then, on account of family affairs, she went to another town. The next thing I heard was that the pyosalpinx had again appeared and was discharging the same way. At last her health was becoming so impaired that it was deemed advisable to remove both ovaries and tubes. This was done, and she made a good recovery.

Acute oöphoritis may arise from mechanical obstruction to the menstrual flow, membraneous exfoliation, or sanguineous tension in the uterus itself, an obstruction either in the uterus or Fallopian tube. When there is obstruction in the Fallopian tube, it may arise from some error in development, or adhesions resulting from past peritonitis. If from the latter, I am inclined to think that the ovary did not wait till the Fallopian obstruction was formed, but took on the inflammatory condition as a consequence of the pelvic peritonitis. Therefore it is impossible to say how much the oöphoritis is due to the Fallopian obstruction or to the pelvic peritonitis. At any rate, once the Fallopian obstruction is formed, it is almost certain to cause an acute inflammatory attack of the ovary at every menstrual period, and if allowed to go on month after month, it is almost certain to end in chronic oöphoritis.

In a number of cases of chronic oöphoritis operated on by Mr Lawson Tait, one or both Fallopian tubes was found to be constricted or adherent to the ovary. Many cases have since been reported with this condition, and I found it also in one of my own.

When the mechanical obstruction is in the uterus, it is, as a rule, found in one or other of the flexions, or in partial or complete atresia of the os. Obstructive dysmenorrhœa has been classed by one author at least, as uterine colic, his theory being that the retained blood is unable to pass out on account of the uterine obstruction, and pains are set up in the uterus by its efforts to eject the pent up fluid. This, I am convinced is not always true. The same author, *i.e.*, Barnes, at another part of his book, when speaking of ovarian dysmenorrhœa, says that the ovarian distress accompanies the uterine distress; but even in such cases the ovarian symptoms take precedence in time. Here, then, is a clear statement made by a distinguished gynæcologist that in uterine obstruction the ovaries are the organs first involved; in other words, they are the seat of pain first, and not the uterus. I do not mean to say that there is never any pain in the uterus, but I believe that in the majority of cases in which uterine pain is a feature, that it is not due to the pent up fluid in

the uterus, but perhaps from the exfoliated mucus membrane, or a blood clot, acting as a foreign body, or it may be from sanguineous tension, acting in the uterus itself against its mucus membrane. Why is it that in some cases of dysmenorrhœa, when there is uterine flexion, and just before the menstrual discharge takes place, there is severe pain both in the region of the ovaries and the uterus, and after the discharge is established there is no pain in the uterus, and only a dull aching feeling in the region of the ovaries? It is clear that the mechanical obstruction in the uterus could not have been the sole cause of the pain in that organ, for it is well known that blood will pass out of the uterus although there is a flexion. Again, if the pain were due to retained menses, the pain should disappear and the menses show, when, for instance, a hollow uterine stem is introduced, but such is not invariably the case. As regards atresia of the os uteri affecting the ovaries, I could not do better than give the particulars, as short as possible, of one or two cases that have come under my care. One, in particular, is very interesting and instructive. It was that of a lady, age 27, married seven years; but never pregnant. She commenced her menstrual life at the age of twelve years, and from the very first suffered excruciating pain in the region of the ovaries at every period; finally pain was her constant companion. Her menses were very scant, never lasting more than two days. She had tried many doctors, and great varieties of treatment. On examination she presented the pin hole os, anteflexion, and a conical cervix. Her ovaries could be felt with difficulty; they were very small, firm, and tender. I divided the cervix with the metrotome, and passed into the uterus a vulcanite stem. Shortly after her pain was considerably less, which I can only account for by the stem rectifying the anteflexion, which was very pronounced, and preventing the uterus dragging on the ovaries. She wore the stem for three weeks before the menses appeared, and then, for the first time in her life, they were tolerable, and lasted five days, but still a good deal of ovarian pain. Here is a clear illustration of a double obstruction, causing excruciating pain. The pain could not have been due to uterine contractions throwing off the

retained menses. If that had been so these would have escaped on the introduction of the stem, but they did not appear until three weeks after. In this case it is clear that the ovaries were the affected organs, and the right seemed to be the worst, for this exhibited a greater amount of tenderness than the left when pressed upon.

On the afternoon of the fifth day of her menses I removed the uterine stem, and the next morning all traces had disappeared. Two days after she developed a severe attack of pelvic peritonitis. At first I thought this must have something to do with the stem, but I learned from her that the day previous she had changed heavier clothing for a lighter material, and exposed herself to a cold wind. This, at any rate, I accepted as a reasonable cause. She slowly recovered from this attack, similar to those she had frequently suffered from before, and in which the ovaries were undoubtedly involved. Before she was perfectly well and had again menstruated, she was forced by family affairs to go to her distant home. In this case I could not hold out a favourable prognosis, and informed the patient it might be necessary to remove the uterine appendages. I afterwards learnt that this was done at Auckland, and that she died under the operation. She must have passed through the hyperæmia of adolescence to acute oöphoritis, finally turning to the chronic form, with atrophy of the ovaries and frequent attacks of pelvic peritonitis, of which the oöphoritis may be the cause or the consequence. It is also instructive that in all cases of severe dysmenorrhœa unamenable to the usual form of treatment, an early examination should be insisted upon, or no responsibility assumed by the medical attendant.

Barnes lays considerable stress on this point when he says that many of the abnormalities of the ovaries and Fallopian tubes, especially inflammatory adhesions and altered conditions of the ovaries are in consequence of the narrow os uteri, and might have been prevented had the obstacle to menstruation been removed at an early period of life.

From such cases it might be thought that the uterus is the cause of all the mischief. Doubtless uterine obstruction is of

considerable importance. Not in itself, but it is full of terrible consequences to the ovaries and surroundings. Dr. Benj. Hart asserts, in his " Female Pelvic Anatomy " :—" A flexion of itself is of no consequence, and because anteflexion is often associated with dysmenorrhœa, it does not follow that it is the cause of it." I am inclined to think that flexions are only important when they affect other organs, and I take it that the ovaries are the organs most affected by such abnormalities.

In most cases of dysmenorrhœa the ovaries are not taken into sufficient consideration; indeed, they are often entirely overloooked, the whole energy of treatment being expended on the uterus, under the impression that the pain is uterine colic, or mere ovarian neuralgia, caused by the difficulty of the menses passing through the obstruction, or their complete retention. So the treatment is confined very often to the administration of drugs and hot baths. In cases of a mild form such treatment as this may be advocated till Nature has righted herself, if she can, but in severe cases, to delay examination and rectification of the obstruction is a fatal mistake, and the ovaries are the organs that will afterwards tell the tale. If this could be always kept in view there would be fewer cases of chronic oöphoritis, a form of the disease which all admit is very frequently met.

On account of the many forms of inflammation that are liable to take place within the female pelvis it often becomes a matter of difficulty to make an exact diagnosis. Chronic oöphoritis, according to those best able to judge, is often surrounded by complications of the most severe nature.

We can all easily understand that when the ovaries have been subjected to repeated attacks of inflammation they must soon become altered both in structure and physiological function. This alteration must necessarily set up concomitant symptoms, not only confined to the diseased parts, but often widely reflex; and thus numerous symptoms are produced, going far to obscure the case.

As far as my own experience teaches me the most distressing symptom in chronic oöphoritis is bodily pain. This is located principally in the region of the ovaries, in the back, and down

the thighs, and seems to be with the patient more or less always. The mind, too, is not always exempt, the most marked mental symptom being melancholia, no doubt a production of the continued pain. Sometimes epilepsy is said to accompany ovarian pain.

I have met one case in which there is an undoubted relation between the fits and the state of the ovaries. She had suffered for years from dysmenorrhœa. When she came under my care she had a very pronounced anteflexion of the uterus, which was amenable to treatment, but the pain in the region of the ovaries remained, and at her usual periods her fits are more frequent and more violent than at other times. There is no family history of fits, insanity, or drunkenness. Bromide and other sedatives have little or no effect on them.

I feel convinced she suffers from chronic oöphoritis, and that the removal of her ovaries would probably cure both her pain and her epilepsy.

One more symptom I should like to mention, and that is the hæmorrhage. Not only as a rule is there dysmenhorrhœa, but menorrhagia. Of course, if the case be one in which there is uterine obstruction, or as I take it some structural change in the mucus membrane, there may be even amenorrhea.

The pathological appearance of chronic oöphoritis is well marked in the great increase of interstitial tissue. Sometimes the organ is enlarged, sometimes it is atrophied. Both conditions are well illustrated in the specimens I have, resembling very much chirrosis of the liver. Sometimes cysts are to be found both in the substance and on the surface, sometimes abscesses; when the latter, the ovaries become as a rule very much enlarged. The surface presents a somewhat knobby appearance—deep impressions with corresponding ridges giving one the impression of a somewhat hard, tough, leathery substance. This is very much the appearance of the specimens I have. The Tunica Albuginea has become hard and thickened, so that ovulation has become a thing of the past, and the attempts to complete this physiological act only increase the suffering.

We owe a high sense of gratitude to the recent investigators of the pathology of the diseases of the female pelvis. They have done much to make diagnosis more certain, and point out a rational line of treatment. As regards the etiology of chronic oöphoritis one might say, and justly too, that it is as numerous as its symptoms. Of one thing I am convinced, that frequently the true cause is never made clear and definite. If a patient suffering from this affection be asked what the cause was, her answers are indefinite. Maybe she suffered from the time her last child was born, or maybe from the last miscarriage, or perchance she connects it with some fall or an attack of inflammation. Others again, and especially those who never have had children, who have suffered for years, cannot associate any particular circumstance with the beginning of their misery. The history of one of my cases corresponds exactly with this. She was married eight years, never pregnant, had suffered pain before marriage, but for the last five years it had been much worse, and was now unbearable. Pain and menorrhagia were the chief features in this case. She could mention no likely cause for all her suffering. She had retroflexion of the uterus and prolapsed ovaries. The retroflexion might be taken as the starting cause, acting as an obstructive to the menses, the prolapsed condition of the ovaries only making things far worse. After much consideration and failure of the usual remedies to give any relief, I removed her ovaries and tubes, and she is now in excellent health and has no pain.

Another patient came under my care suffering from dysmenorrhœa and menorrhagia, and had done so for some considerable time. She had been married four years; was never pregnant. Occasionally she had attacks of severe pelvic peritonitis. The menorrhagia at times was most alarming, and the pain excruciating.

After several months she gradually recovered sufficiently to walk a short distance. The pain, however, although of less severity, never entirely left her, and her constitution had become very much affected. She was somewhat averse to an operation, believing that in time she would quite recover, and that a sea

voyage to England, where she wished to see her friends, would brace her up.

She took passage in a steamer, and towards the end of the voyage felt very ill again. She landed amongst her friends almost an invalid. Mr. Lawson Tait was called in consultation to see the case, as was also Dr. Savage. Both advised as the only remedy removal of the uterine appendages. This operation was performed by Mr Tait, after the husband had cabled his consent. The patient made a good recovery, and returned to the colony in excellent health in less than nine months from date of departure. It is now over a year since the operation, and she still enjoys good health, and suffers no pain.

Others of a similar character—cases of chronic oöphoritis in married multipara—which have come under my observation and treatment, and from whom I have removed the uterine appendages have all given most satisfactory results.

I just wish to mention one more case. It is that where chronic oöphoritis was found in a pluripara. Pain and frequent menorrhagia were the grave symptoms. Everything was done that could be done short of operation, but without any good results. I advised removal of the ovaries as the only thing likely to do any good. She freely consented, preferring to die rather than live a life of misery. Accordingly I removed both ovaries and Fallopian tubes, the left being adherent to the ovary. The patient, with one or two interruptions, due to external circumstances, made a rapid and complete recovery, and is now in good health, and free of pain. This is the only case I have had in which menstruation came on several times after operation and not entirely free from pain.

These cases I have just related are those which have come under my own personal observation and experience. They speak for themselves, and the pathological specimens can tell their own tale. In such cases therapeutical agencies cannot have the slightest beneficial effect. They are beyond such ordinary treatment; nothing but the total extirpation of the diseased organs can avail. Such ovaries are not removed because they are merely offending bodies, for which Dr. Batty first removed

them; but they are actually diseased, just as much as chirrosis of the liver or kidney is a disease.

I believe that in cases of chronic oöphoritis there is often a great deal of unnecessary pain inflicted by means of blisters and such like counter irritants over the ovaries, with the hope of doing good; it cannot be with the hope of effecting a radical cure; of that, more than one gynæcologist has said there is very small hope indeed. In such cases, too, pelvic peritonitis is nearly always more or less a latent affection, only existing for some exciting cause, and this is sometimes found in the treatment of the case, especially so in endeavouring to rectify severe flexions of the uterus. I met one case of chronic oöphoritis in which the retroflexion was so great as to bring fundus and cervix in contact. She at times suffered from profuse menorrhagia and intolerable dysmenorrhœa. This had gone on for two years, whilst the uterus felt as hard as a cricket ball. To attempt to rectify a flexion of this nature, surrounded by most unfavourable conditions, with the hope of effecting a cure of the ovaries, would be, to say the least of it, a difficult and dangerous proceeding, whether the cutting operation was performed on the knee of the flexion or the use of pessaries and tents adopted, there would be great danger of setting up pelvic peritonitis.

Granting, on the other hand, that the flexion is rectified, would the disease of the ovaries be cured? I think not. The disease is not in the uterus, and such means can only act indirectly on the ovaries at best. I again assert my opinion, with Dr. Benjamin Hart, that flexion of the uterus in itself is of no consequence except as regards the organs in the immediate neighbourhood. Once chrônic inflammation has taken a firm hold on the ovaries, with change of tissue—and this change of tissue must take place rapidly from the great blood supply to the organs—I believe that anything done to the uterus will have a negative result as regards curing the oöphoritis, but on the other hand may do a deal of harm. This treatment has been taken too late in the day, so to speak. Had it been adopted before the ovaries became so deeply involved, some good might have followed. It is therefore important to look for uterine obstruction

early, and to rectify it at once. By this early and decided treatment, I think many a case of chronic oöphoritis might be warded off. The whole mistake lies in supposing that the patient's state is due entirely to the condition of the uterus, and that often mere palliative measures are adopted, while scarcely a thought may be directed to the condition of the ovaries, which, of course, should be the first consideration. I therefore maintain that more attention should be given to the disease of these organs, in order, if possible, to keep it within due bounds, for once the disease has obtained a mastery, the patience and skill of the medical attendant will be put to the test.

I do not wish to convey the idea that even in severe cases of ordinary oöphoritis nothing short of removal of the uterine appendages can be done. In severe cases much can be done, and is done, by the ordinary means now at our disposal. On the other hand there are cases in which no ordinary means can have the slightest benefit. Where the line shall be drawn I cannot tell. One thing to me is very evident, that there are cases in which nothing will effect a cure but complete removal of the uterine appendages. Of this every surgeon must be sure who shall undertake the responsibility of the operation. How he shall be sure must rest with his own powers of observation and diagnosis. In the present state of our knowledge on the subject there is no infallible guide; but I should say when the surgeon has tried everything in his power short of operation; when the patient is dragging out a miserable existence, and her life may be said to be in danger at any hour, either from hemorrhage or peritonitis, the operation is justifiable. If we had more experience and more pathological knowledge on this vexed question, many years of suffering might be saved the patient, for it might then be known for a certainty that to delay the operation would be worse than useless.

I am clearly of opinion that the propriety or otherwise of this operation is not to be decided on ethical grounds, but on a true and scientific basis of pathology.

DYSMENORRHŒA & OÖPHORITIS.

While I recognise that it is a good thing for clinical purposes and for convenience to differentiate dysmenorrhœa into certain classes, according as near as possible to its cause, yet I am of opinion that so closely are the ovaries, tubes, and uterus related to each other during the menstrual act, that none of these organs can be considered as envolved to the perfect immunity of the others. Therefore, in treating of the subject as set forth above, I prefer to take the term dysmenorrhœa, without holding to any distinct classification, whatever may be the cause, or wherever the seat of pain.

It is, however, principally my object to set forth in these pages, as far as possible, the relation between dysmenorrhœa and inflammatory changes in the ovaries in cases that have come directly under my observation and treatment.

If dysmenorrhœa were a disease, associated with the uterus alone, one would naturally suppose that, as that organ is easily within reach and treatment, such a painful affection would speedily succumb to the remedy; but how often is it otherwise! How often is the treatment of the disease, indicated by this painful symptom, undertaken with but little hope of success! From the very fact that the cause is frequently unknown or only guessed at, or again if it be known, it is sometimes situated beyond all palliative measures, and operative interferences, often of a very serious character, are resorted to.

I admit that in cases of os atresia, and in flexions of the uterus, minor operative treatment does a deal of good, specially so if done in time; but even these minor operative measures are often fraught with danger to the patient from inflammatory mischief that may ensue in the pelvic cellular tissue, or peritoneum and adjacent organs, in which case the dysmenorrhœa

will be worse than ever. True, there are many successes due to the use of the metrotome or treatment of flexions in suitable cases, but, as I have just said, it will much depend not only on the way in which the treatment is applied, but, what is of equal importance, the time at which it is done.

To my mind, as soon as either os atresia, or some flexion of the uterus, is diagnosed to be the cause of the dysmenorrhœa, or if only an important factor in that cause, immediate operative interference is imperative, and if undertaken with all due precautions is very likely to give gratifying results. But, frequently, from delicacy or some other like reason, this treatment is deferred, and perhaps after months or years of suffering the operation is at last undertaken, but is proved from the continuance of the dysmenorrhœa to have been done "too late in the day."

I am persuaded that it is this delay in taking decided action that accounts for much, if not all, of the marked pathological changes that are found in the tubes and ovaries of cases with this history.

My experience is that dysmenorrhœa indicates an abnormal condition of affairs not to be lightly treated, specially so in young girls and married, nullipara, which, if continued and neglected, the ovaries and tubes are the organs that will afterwards tell the tale. I do not for a moment wish to convey the idea that I think os atresia, flexions, and exfoliation of the uterine mucus membrane are the sole causes of dysmenorrhœa, although they do seem to account for many cases; for there can be no doubt but that after these mechanical obstructions are removed, menstruation in many is at least rendered tolerable. One might with very good reason ask, how so? For it is well known that there are many women who have os atresia, or flexions of the uterus, yet menstruate regularly and suffer no pain. So that one is driven to seek other reasons for painful menstruation. Naturally, one turns to the pathologist as much as to the specialist for light on this question, but not with much success. As yet much is shrouded in mystery; certainly much has been

done in the pathology of the ovaries and tubes, but much yet remains to be told as to the causes of dysmenorrhœa.

In exfoliation of the uterine mucus membrane there seems to be a well-recognised cause of pain, more especially if complicated with flexion or narrow os. But why in some cases the uterine mucus membrane should be shed in pieces that are easily recognised by the naked eye, and in others, if shed at all, not recognisable in the menstrual debris, and yet in the latter there may be just as much pain as in the former, although the uterine passage is perfectly patent. The case, for instance, which Schultze relates—in which the uterine passage and outlet were sufficiently large to admit the free passage of a sound before the menses appeared, and yet the patient was suffering agony—is a good case in point.

I cannot say that such an extreme case has ever come under my personal observation, yet I am sure I have had many that closely approach it, which, when the menses have fairly started the acute pain subsided, leaving only a dull heavy feeling as a result of the excessive congestion and severe pain.

Such cases must indicate a certain hyperæmia of the uterine mucus membrane and the immediate neighbouring organs, with probably some tissue change in the mucus membrane itself—differing from the recognised normal type—whereby the outlet of blood from its surface is hindered, causing the uterus to contract and engorge itself more and more until the distended vessels rupture and give relief.

I have observed in cases of membraneous dysmenorrhœa that I have had in which the shreds and tatters of uterine mucus membrane were clearly visible to the naked eye, and further demonstrated as such under the microscope, in which there was the appearance of a highly congested membrane differing from the normal type, inasmuch as it was thicker, with an abundance of connective tissue, hypertrophied blood vessels and glands, smooth on the free side, without appearance of cilia or epithelium, somewhat ragged and rough on its lately attached surface, with plenty of connective tissue and some muscular fibres, the whole having a highly vascular appearance.

In the cases that have applied to me suffering under this condition, I have invariably used the metrotome, if os atresia were present, and Hegar's dilators in cases of flexion, with careful use of stem pesseries afterwards, till complete patency of canal was established. In suitable cases too, I curetted the interior wall of the uterus, using strict antiseptic precautions; but I cannot say that this curetting did much good, as portions of membrane were seen at subsequent menstruations; but their exit was facilitated by the patency of the canal, and the dysmenorrhœa was generally much less than formerly.

There is one condition about these cases which struck me as somewhat peculiar, and that is the extraordinary rigidity of the internal os, which resists the entrance of the dilators to such a degree that occasionally the muscular fibres tear rather than yield. It is at this point too, where the divergence takes place between the mucus membrane of the cervical canal and that of the body of the uterus.

I have thought that it may be probable that here starts some structural divergence from the usual type, such as a greater abundance of connective tissue about the muscular fibres, or some physiological resisting power in the fibres themselves peculiar to such uteri, imparting to the mucus membrane a greater thickness and resisting power (on account of the increase of connective tissue), and, as a consequence of this, delaying the sanguineous exosmosis and generating a greater tendency to spasmodic contractions of the uterus. I am inclined to hold by the theory that the uterine mucus membrane is not shed at each period of menstruation as a normal and natural process, except in regard to its cilia and epithelium; and when mucus membrane is shed entire or in pieces, it is a deviation from the normal type.

Very much, I think, of the dysmenorrhœa which seems as yet unknown in its cause might be found in the resisting power, either in the walls of the capillary vessels or in the mucus membrane, to the natural sanguineous exosmosis. If vascular tension be maintained against uterine mucus membrane, it would act on the uterus very much like a foreign body, inducing

contractions of the organ. This structural alteration of the mucus membrane from what is recognised as the normal type may in some cases be a natural and physiological condition, while in others it may be due to some misplacement of the organ, or some cause, either local or constitutional, so acting on the mucus membrane as to materially alter it in structure, giving greater resistance to the blood tension, thus causing pain.

This leads to the consideration as to what effect this state can exercise on the ovaries. So closely are these organs associated with the uterus during the catamenia, that they must partake of the congestive state of the latter pari passu.

The process of ovulation renders the ovaries the most important organs affected at or about the period of menstruation. They then undergo a natural physiological change, which in some cases amounts to an abnormal hyperplasia. They become enormously congested, their veins enlarged, and in cases of dysmenorrhœa they are affected reflexly, in addition to what pain may be endured by their own inflamed and congested state. If this condition be allowed to repeat itself again and again, hypertrophy of the organs ensues, then, perhaps, atrophy, and finally they are so altered in structure that their normal and physiological functions are utterly destroyed.

If on the other hand there is no obstruction to the blood flow by the natural channels, but there is menorrhagia accompanied by hyperæmia of the ovaries, it is generally found in such cases of ovarian activity that the sanguineous discharge is free and copious, giving rise to no more discomfort than a feeling of weight and tenderness in the region of these organs, and probably a sensation of weariness from the loss of blood. In such a case the ovaries present a condition of affairs closely allied to acute oöphoritis. It is generally found in young emotional girls. I have also found it often, I may say, in young married women, and sometimes in mothers of one or more children. It is an abnormal hyperæmia of the ovaries, and if not arrested will have a tendency to induce ill-health, principally from anæmia, or perhaps what is worse, pass into the chronic

state of oöphoritis, with probably a dislocation of one or both ovaries into the *cul de sac* of Douglas.

Mr Lawson Tait is the only author I am aware of who has separated this condition from acute oöphoritis and given it a class of its own.

Barnes, however, has recognised this condition of the ovary when speaking of a case under the head of dysmenorrhœa. He said that the flow was indicative of more than a simple hyperæmia of the ovary. Clearly, therefore, he recognised a hyperæmic state of the organ as distinct from acute or chronic oöphoritis, but has not considered it of sufficient importance to give it a distinct class.

Atthill has said—"I am satisfied that a condition of ovarian irritation short of actual inflammation, but in which there is a certain amount of congestion present, is not an infrequent cause of menorrhagia,

Winckel, in the first lines of his opening chapter on Oöphoritis has said that inflammation of the ovary may follow hyperæmia and apoplexy of the organ.

Mr Tait has used a term which I think fully explains many cases which, not exhibiting sufficiently pronounced symptoms to classify them under acute oöphoritis, yet possess sufficient indications to show that they are closely related to that disease.

As far as my experience goes, the majority of women who have consulted me for menorrhagia and hyperæmia of the ovaries, have been married, and some of them, as I have said, the mothers of one or more children; and I am thoroughly convinced from the examinations to which I have subjected my patients, that menorrhagia can be caused by other means than tumours, polypi, sub-involution, displacement, malignant disease, or chronic inflammation of the ovaries. In nearly every case they complain of a dull heavy feeling in the region of the ovaries, tender on pressure, and on examination per rectum the ovaries are found swollen, and very tender to the touch, and apparently everything else about the pelvic organs quite normal, although I could not be certain but that some of them at one time or other might have had an attack of pelvic peritonitis of

more or less severity. Therefore diagnosing, by elimination, it is quite clear that the ovaries are the offending bodies, and if they have not taken on the acute form of oöphoritis, they are at any rate in that state designated by Mr Tait as simple hyperæmia.

The cause of menorrhagia in young girls and in some married women too I think is due, in a great measure, to a high-strung emotional temperament in which the sexual emotions play a most important part. Whatever these patients or their friends may think to the contrary this psychological factor must be taken into consideration. I have found good doses of bromide with nitrate of silver or ergotine and perfect rest at the time of the catamenia very beneficial. It may, however, be necessary at times to interfere with such patients' social habits and pastimes, and if not absolutly prohibit all such as are likely to abnormally excite the emotions, at any rate a considerable restraint must be exercised, or therapeutical treatment will be in vain.

I have mentioned this hyperæmic condition of the ovaries because I recognise in it a factor in the cause of acute oöphoritis, and its discussion a fitting introduction to that phase of the disease.

What pathology we do know regarding acute oöphoritis goes to show that it is the follicles of the ovary that are principally affected. There is, however, another form of inflammatory action of the organ in which the stroma or interstitial element is the part affected, but even in this latter form I am inclined to think, and both the physiological action and anatomical structure of the organ will support the theory, that the interstitial form is never a primary inflammation, especially when it (the inflammation) starts *de novo* in the organ; or the result of continued hyperæmia, but is secondary to the inflammation and destruction of the follicles. It is probable, however, that both forms of inflammation may take place simultaneously in the organ when the cause arises from some form of pelvic inflammation setting up first of all, perioöphoritis which may spread to the stroma and the follicles, or the latter may become affected by the excessive hyperæmia of the organ. In this way I can conceive of both forms of tissue change taking place at the same

time, and when the process has progressed so far as to destroy follicles and set up a proliferation of interstitial tissue it has passed from the acute to the chronic form. We know for a certainty that the interstitial tissue largely predominates in chronic oöphoritis, and this is invariably verified by the actual specimens when such can be procured by operative means or at post-mortems. The specimens obtained by operative means are preferable, because they are then unaffected by any other disease which may prove fatal and might alter the condition of the ovaries prior to death. I have several specimens of ovaries and tubes which I have removed from patients by abdominal section, who have suffered for years from chronic oöphoritis, and it is clearly seen that the interstitial element is largely predominant, indeed there is nothing else to be seen except a few cysts, which are probably the remains of over-distended follicles.

We can all see the difficulty there is in getting a true pathology of the acute form of oöphoritis. The organs are never removed for that phase of the disease, so that the only information we have concerning it must come from the post-mortem room, and this is not satisfactory for the reasons I have just given.

Again, I believe there are a large number of post-mortems made in which the ovaries are never looked at from the reason that there never was thought to be anything the matter with them during life. Prof. Thomas has given us a table taken from Henning in which he says that out of 100 necropsies, in 10 diseases of the ovaries could or were made out during life; and again, out of 81 necropsies, there were 53 cases of diseased ovaries which were not diagnosed during life.

As regards the etiology of acute oöphoritis, one probable cause I mentioned when speaking of the excessive hyperæmia of the organ. If this be so, I should be inclined to take it as a form of inflammation originating within the organ itself, induced probably by dysmenorrhœa. As far as I am concerned myself, I must say that I have not yet had a sufficient number of cases or sufficient experience to speak with any decided tone on this point.

We are all aware that injury to the ovary, gonorrhœa, pelvic peritonitis, pelvic cellulitis, and such like direct or indirect causes, are often the immediate excitants to an acute attack of oöphoritis. I cannot remember ever having met a case arising from direct injury of the ovary. These organs are so well protected from external violence, that an inflamed condition from that cause must be very rare. I have to my knowledge met with one case of bad oöphoritis arising from latent gonorrhœa in the male, and as the case is an interesting one, I will give its history in as few words as possible. Some time before marriage the husband contracted a gonorrhœa. He understood himself to be cured, and that no harm could come of getting married. A few days after marriage the wife was seized with a severe burning pain in the region of the left ovary, which ultimately compelled her to seek medical advice. From then till the time she came under my care, which was nearly two years, she was more or less an invalid. At the time of her catamenia she suffered a great amount of pain, laying her up in bed for several days. On examination both ovaries were very sensitive to pressure, the left more so. This could be felt per rectum to be enlarged, somewhat flabby, and exquisitely tender. The catamenia was very irregular, very profuse, and caused, as I have said, great pain. The uterus slightly anteflexed; at times she would suffer from pelvic peritonitis, during which attacks the right ovary felt painful. After a severe attack of pelvic peritonitis, a pyosalpinx formed in the left Fallopian tube. During this attack the right ovary became decidedly affected, and was even more painful than the left. The next time her menses appeared there was some pus, and at the end of a week nothing remained but a purulent discharge. The distended Fallopian tube could be easily felt, but as the pus got free discharge *per via naturalis*, she improved a good deal. Then, on account of family affairs, she went to another town. The next thing I heard was that the pyosalpinx had again appeared and was discharging the same way. At last her health was becoming so impaired that it was deemed advisable to remove both ovaries and tubes. This was done, and she made a good recovery.

Acute oöphoritis may arise from mechanical obstruction to the menstrual flow, membraneous exfoliation, or sanguineous tension in the uterus itself, an obstruction either in the uterus or Fallopian tube. When there is obstruction in the Fallopian tube, it may arise from some error in development, or adhesions resulting from past peritonitis. If from the latter, I am inclined to think that the ovary did not wait till the Fallopian obstruction was formed, but took on the inflammatory condition as a consequence of the pelvic peritonitis. Therefore it is impossible to say how much the oöphoritis is due to the Fallopian obstruction or to the pelvic peritonitis. At any rate, once the Fallopian obstruction is formed, it is almost certain to cause an acute inflammatory attack of the ovary at every menstrual period, and if allowed to go on month after month, it is almost certain to end in chronic oöphoritis.

In a number of cases of chronic oöphoritis operated on by Mr Lawson Tait, one or both Fallopian tubes was found to be constricted or adherent to the ovary. Many cases have since been reported with this condition, and I found it also in one of my own.

When the mechanical obstruction is in the uterus, it is, as a rule, found in one or other of the flexions, or in partial or complete atresia of the os. Obstructive dysmenorrhœa has been classed by one author at least, as uterine colic, his theory being that the retained blood is unable to pass out on account of the uterine obstruction, and pains are set up in the uterus by its efforts to eject the pent up fluid. This, I am convinced is not always true. The same author, *i.e.*, Barnes, at another part of his book, when speaking of ovarian dysmenorrhœa, says that the ovarian distress accompanies the uterine distress; but even in such cases the ovarian symptoms take precedence in time. Here, then, is a clear statement made by a distinguished gynæcologist that in uterine obstruction the ovaries are the organs first involved; in other words, they are the seat of pain first, and not the uterus. I do not mean to say that there is never any pain in the uterus, but I believe that in the majority of cases in which uterine pain is a feature, that it is not due to the pent up fluid in

the uterus, but perhaps from the exfoliated mucus membrane, or a blood clot, acting as a foreign body, or it may be from sanguineous tension, acting in the uterus itself against its mucus membrane. Why is it that in some cases of dysmenorrhœa, when there is uterine flexion, and just before the menstrual discharge takes place, there is severe pain both in the region of the ovaries and the uterus, and after the discharge is established there is no pain in the uterus, and only a dull aching feeling in the region of the ovaries? It is clear that the mechanical obstruction in the uterus could not have been the sole cause of the pain in that organ, for it is well known that blood will pass out of the uterus although there is a flexion. Again, if the pain were due to retained menses, the pain should disappear and the menses show, when, for instance, a hollow uterine stem is introduced, but such is not invariably the case. As regards atresia of the os uteri affecting the ovaries, I could not do better than give the particulars, as short as possible, of one or two cases that have come under my care. One, in particular, is very interesting and instructive. It was that of a lady, age 27, married seven years; but never pregnant. She commenced her menstrual life at the age of twelve years, and from the very first suffered excruciating pain in the region of the ovaries at every period; finally pain was her constant companion. Her menses were very scant, never lasting more than two days. She had tried many doctors, and great varieties of treatment. On examination she presented the pin hole os, anteflexion, and a conical cervix. Her ovaries could be felt with difficulty; they were very small, firm, and tender. I divided the cervix with the metrotome, and passed into the uterus a vulcanite stem. Shortly after her pain was considerably less, which I can only account for by the stem rectifying the anteflexion, which was very pronounced, and preventing the uterus dragging on the ovaries. She wore the stem for three weeks before the menses appeared, and then, for the first time in her life, they were tolerable, and lasted five days, but still a good deal of ovarian pain. Here is a clear illustration of a double obstruction, causing excruciating pain. The pain could not have been due to uterine contractions throwing off the

retained menses. If that had been so these would have escaped on the introduction of the stem, but they did not appear until three weeks after. In this case it is clear that the ovaries were the affected organs, and the right seemed to be the worst, for this exhibited a greater amount of tenderness than the left when pressed upon.

On the afternoon of the fifth day of her menses I removed the uterine stem, and the next morning all traces had disappeared. Two days after she developed a severe attack of pelvic peritonitis. At first I thought this must have something to do with the stem, but I learned from her that the day previous she had changed heavier clothing for a lighter material, and exposed herself to a cold wind. This, at any rate, I accepted as a reasonable cause. She slowly recovered from this attack, similar to those she had frequently suffered from before, and in which the ovaries were undoubtedly involved. Before she was perfectly well and had again menstruated, she was forced by family affairs to go to her distant home. In this case I could not hold out a favourable prognosis, and informed the patient it might be necessary to remove the uterine appendages. I afterwards learnt that this was done at Auckland, and that she died under the operation. She must have passed through the hyperæmia of adolescence to acute oöphoritis, finally turning to the chronic form, with atrophy of the ovaries and frequent attacks of pelvic peritonitis, of which the oöphoritis may be the cause or the consequence. It is also instructive that in all cases of severe dysmenorrhæa unamenable to the usual form of treatment, an early examination should be insisted upon, or no responsibility assumed by the medical attendant.

Barnes lays considerable stress on this point when he says that many of the abnormalities of the ovaries and Fallopian tubes, especially inflammatory adhesions and altered conditions of the ovaries are in consequence of the narrow os uteri, and might have been prevented had the obstacle to menstruation been removed at an early period of life.

From such cases it might be thought that the uterus is the cause of all the mischief. Doubtless uterine obstruction is of

considerable importance. Not in itself, but it is full of terrible consequences to the ovaries and surroundings. Dr. Benj. Hart asserts, in his "Female Pelvic Anatomy":—"A flexion of itself is of no consequence, and because anteflexion is often associated with dysmenorrhœa, it does not follow that it is the cause of it." I am inclined to think that flexions are only important when they affect other organs, and I take it that the ovaries are the organs most affected by such abnormalities.

In most cases of dysmenorrhœa the ovaries are not taken into sufficient consideration; indeed, they are often entirely overloooked, the whole energy of treatment being expended on the uterus, under the impression that the pain is uterine colic, or mere ovarian neuralgia, caused by the difficulty of the menses passing through the obstruction, or their complete retention. So the treatment is confined very often to the administration of drugs and hot baths. In cases of a mild form such treatment as this may be advocated till Nature has righted herself, if she can, but in severe cases, to delay examination and rectification of the obstruction is a fatal mistake, and the ovaries are the organs that will afterwards tell the tale. If this could be always kept in view there would be fewer cases of chronic oöphoritis, a form of the disease which all admit is very frequently met.

On account of the many forms of inflammation that are liable to take place within the female pelvis it often becomes a matter of difficulty to make an exact diagnosis. Chronic oöphoritis, according to those best able to judge, is often surrounded by complications of the most severe nature.

We can all easily understand that when the ovaries have been subjected to repeated attacks of inflammation they must soon become altered both in structure and physiological function. This alteration must necessarily set up concomitant symptoms, not only confined to the diseased parts, but often widely reflex; and thus numerous symptoms are produced, going far to obscure the case.

As far as my own experience teaches me the most distressing symptom in chronic oöphoritis is bodily pain. This is located principally in the region of the ovaries, in the back, and down

the thighs, and seems to be with the patient more or less always. The mind, too, is not always exempt, the most marked mental symptom being melancholia, no doubt a production of the continued pain. Sometimes epilepsy is said to accompany ovarian pain.

I have met one case in which there is an undoubted relation between the fits and the state of the ovaries. She had suffered for years from dysmenorrhœa. When she came under my care she had a very pronounced anteflexion of the uterus, which was amenable to treatment, but the pain in the region of the ovaries remained, and at her usual periods her fits are more frequent and more violent than at other times. There is no family history of fits, insanity, or drunkenness. Bromide and other sedatives have little or no effect on them.

I feel convinced she suffers from chronic oöphoritis, and that the removal of her ovaries would probably cure both her pain and her epilepsy.

One more symptom I should like to mention, and that is the hæmorrhage. Not only as a rule is there dysmenhorrhœa, but menorrhagia. Of course, if the case be one in which there is uterine obstruction, or as I take it some structural change in the mucus membrane, there may be even amenorrhea.

The pathological appearance of chronic oöphoritis is well marked in the great increase of interstitial tissue. Sometimes the organ is enlarged, sometimes it is atrophied. Both conditions are well illustrated in the specimens I have, resembling very much chirrosis of the liver. Sometimes cysts are to be found both in the substance and on the surface, sometimes abscesses; when the latter, the ovaries become as a rule very much enlarged. The surface presents a somewhat knobby appearance—deep impressions with corresponding ridges giving one the impression of a somewhat hard, tough, leathery substance. This is very much the appearance of the specimens I have. The Tunica Albuginea has become hard and thickened, so that ovulation has become a thing of the past, and the attempts to complete this physiological act only increase the suffering.

We owe a high sense of gratitude to the recent investigators of the pathology of the diseases of the female pelvis. They have done much to make diagnosis more certain, and point out a rational line of treatment. As regards the etiology of chronic oöphoritis one might say, and justly too, that it is as numerous as its symptoms. Of one thing I am convinced, that frequently the true cause is never made clear and definite. If a patient suffering from this affection be asked what the cause was, her answers are indefinite. Maybe she suffered from the time her last child was born, or maybe from the last miscarriage, or perchance she connects it with some fall or an attack of inflammation. Others again, and especially those who never have had children, who have suffered for years, cannot associate any particular circumstance with the beginning of their misery. The history of one of my cases corresponds exactly with this. She was married eight years, never pregnant, had suffered pain before marriage, but for the last five years it had been much worse, and was now unbearable. Pain and menorrhagia were the chief features in this case. She could mention no likely cause for all her suffering. She had retroflexion of the uterus and prolapsed ovaries. The retroflexion might be taken as the starting cause, acting as an obstructive to the menses, the prolapsed condition of the ovaries only making things far worse. After much consideration and failure of the usual remedies to give any relief, I removed her ovaries and tubes, and she is now in excellent health and has no pain.

Another patient came under my care suffering from dysmenorrhœa and menorrhagia, and had done so for some considerable time. She had been married four years; was never pregnant. Occasionally she had attacks of severe pelvic peritonitis. The menorrhagia at times was most alarming, and the pain excruciating.

After several months she gradually recovered sufficiently to walk a short distance. The pain, however, although of less severity, never entirely left her, and her constitution had become very much affected. She was somewhat averse to an operation, believing that in time she would quite recover, and that a sea

/8

voyage to England, where she wished to see her friends, would brace her up.

She took passage in a steamer, and towards the end of the voyage felt very ill again. She landed amongst her friends almost an invalid. Mr. Lawson Tait was called in consultation to see the case, as was also Dr. Savage. Both advised as the only remedy removal of the uterine appendages. This operation was performed by Mr Tait, after the husband had cabled his consent. The patient made a good recovery, and returned to the colony in excellent health in less than nine months from date of departure. It is now over a year since the operation, and she still enjoys good health, and suffers no pain.

Others of a similar character—cases of chronic oöphoritis in married multipara—which have come under my observation and treatment, and from whom I have removed the uterine appendages have all given most satisfactory results.

I just wish to mention one more case. It is that where chronic oöphoritis was found in a pluripara. Pain and frequent menorrhagia were the grave symptoms. Everything was done that could be done short of operation, but without any good results. I advised removal of the ovaries as the only thing likely to do any good. She freely consented, preferring to die rather than live a life of misery. Accordingly I removed both ovaries and Fallopian tubes, the left being adherent to the ovary. The patient, with one or two interruptions, due to external circumstances, made a rapid and complete recovery, and is now in good health, and free of pain. This is the only case I have had in which menstruation came on several times after operation and not entirely free from pain.

These cases I have just related are those which have come under my own personal observation and experience. They speak for themselves, and the pathological specimens can tell their own tale. In such cases therapeutical agencies cannot have the slightest beneficial effect. They are beyond such ordinary treatment; nothing but the total extirpation of the diseased organs can avail. Such ovaries are not removed because they are merely offending bodies, for which Dr. Batty first removed

them; but they are actually diseased, just as much as chirrosis of the liver or kidney is a disease.

I believe that in cases of chronic oöphoritis there is often a great deal of unnecessary pain inflicted by means of blisters and such like counter irritants over the ovaries, with the hope of doing good; it cannot be with the hope of effecting a radical cure; of that, more than one gynæcologist has said there is very small hope indeed. In such cases, too, pelvic peritonitis is nearly always more or less a latent affection, only existing for some exciting cause, and this is sometimes found in the treatment of the case, especially so in endeavouring to rectify severe flexions of the uterus. I met one case of chronic oöphoritis in which the retroflexion was so great as to bring fundus and cervix in contact. She at times suffered from profuse menorrhagia and intolerable dysmenorrhœa. This had gone on for two years, whilst the uterus felt as hard as a cricket ball. To attempt to rectify a flexion of this nature, surrounded by most unfavourable conditions, with the hope of effecting a cure of the ovaries, would be, to say the least of it, a difficult and dangerous proceeding, whether the cutting operation was performed on the knee of the flexion or the use of pessaries and tents adopted, there would be great danger of setting up pelvic peritonitis.

Granting, on the other hand, that the flexion is rectified, would the disease of the ovaries be cured? I think not. The disease is not in the uterus, and such means can only act indirectly on the ovaries at best. I again assert my opinion, with Dr. Benjamin Hart, that flexion of the uterus in itself is of no consequence except as regards the organs in the immediate neighbourhood. Once chronic inflammation has taken a firm hold on the ovaries, with change of tissue—and this change of tissue must take place rapidly from the great blood supply to the organs—I believe that anything done to the uterus will have a negative result as regards curing the oöphoritis, but on the other hand may do a deal of harm. This treatment has been taken too late in the day, so to speak. Had it been adopted before the ovaries became so deeply involved, some good might have followed. It is therefore important to look for uterine obstruction

early, and to rectify it at once. By this early and decided treatment, I think many a case of chronic oöphoritis might be warded off. The whole mistake lies in supposing that the patient's state is due entirely to the condition of the uterus, and that often mere palliative measures are adopted, while scarcely a thought may be directed to the condition of the ovaries, which, of course, should be the first consideration. I therefore maintain that more attention should be given to the disease of these organs, in order, if possible, to keep it within due bounds, for once the disease has obtained a mastery, the patience and skill of the medical attendant will be put to the test.

I do not wish to convey the idea that even in severe cases of ordinary oöphoritis nothing short of removal of the uterine appendages can be done. In severe cases much can be done, and is done, by the ordinary means now at our disposal. On the other hand there are cases in which no ordinary means can have the slightest benefit. Where the line shall be drawn I cannot tell. One thing to me is very evident, that there are cases in which nothing will effect a cure but complete removal of the uterine appendages. Of this every surgeon must be sure who shall undertake the responsibility of the operation. How he shall be sure must rest with his own powers of observation and diagnosis. In the present state of our knowledge on the subject there is no infallible guide; but I should say when the surgeon has tried everything in his power short of operation; when the patient is dragging out a miserable existence, and her life may be said to be in danger at any hour, either from hemorrhage or peritonitis, the operation is justifiable. If we had more experience and more pathological knowledge on this vexed question, many years of suffering might be saved the patient, for it might then be known for a certainty that to delay the operation would be worse than useless.

I am clearly of opinion that the propriety or otherwise of this operation is not to be decided on ethical grounds, but on a true and scientific basis of pathology.