An Address ON DYSMENORRHOEA.

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I HAVE to make some sort of apology for offering to speak on this subject to-night, because I have so often put my opinions about it before the medical profession in my books, in the *Transactions* of the Obstetrical Society of London, and in the medical journals. I wish this evening to say more clearly and positively what I have already stated in print, and as emphatically to state my dissent from what is taught in many textbooks.

The teaching current in America and that of many books in this country is that dysmenorrhoea is a symptom which may be produced by many different causes, and that the first step towards its treatment is to find out its cause. In my work on *Diseases of Women* I have described genuine dysmenorrhoea, yet must plead guilty to having yielded to current opinion, and described more than one kind of dysmenorrhoea. Increased experience, and reflection upon experience, lead me to think that in this I was wrong. Matthews Duncan states at the beginning of his lecture on dysmenorrhoea that there are two forms—the inflammatory and the spasmodic. But in the rest of his lecture he describes only one, *dysmenorrhoea spasmodica*. In conversation I have heard him say that there was but one true dysmenorrhoea, and this proposition is implied throughout his lecture. Of all men who ever wrote upon gynaecology, Matthews Duncan was the most exact in the use of language, and the most learned in the literature of his subject. The last edition of his *Clinical Lectures on the Diseases of Women* was published in 1889. Since then surgery has marvellously advanced, so that the considerations upon which the family doctor has to base his advice for or against operative treatment are very different now from what they were when Duncan practised. But this is almost the only thing in which these wonderful lectures are unsuitable as a guide to the practitioner to-day. They contain a store of accurate pathological and clinical information that is to be found in no other book that up to then had been published. It is remarkable that this great work should have so little influenced American practice. In that great and progressive country the newest methods of cutting and stitching seem to be thought so important that no one who wishes to be thought up to date can stop to read a book twenty years old. Hence we have a report of an operation by the surgeon-in-chief of a gynaecological clinic in one of the largest and oldest cities of America, describing how he opened the peritoneal cavity, and found no disease within it, he being in complete and amazing ignorance of pelvic cellulitis, although he might have found in Duncan's twenty-year-old lectures an accurate description of its phenomena. And quite recently I opened a book on medical gynaecology by an American, who seemed as ignorant about dysmenorrhoea as the surgeon was concerning pelvic cellulitis.

This is a digression. The first thing I wish to say is that dysmenorrhoea is a disease, and not a symptom.

About one-third of all women menstruate without pain. These happy beings also have, as a rule, good appetites; they sleep soundly, and they are not easily tired; they have healthy nervous systems.

There is before and during menstruation some increase in vascular tension and rise of temperature. In patients who are ill or weak, the effect of this is to reduce the strength of the nervous system, and to make them more sensitive to pain; and hence such patients have pain before and during menstruation. In most women this pain is only slight; they feel uncomfortable, but there is nothing in their appearance or behaviour to announce to their friends or acquaintances that menstruation is present or imminent. The degree to which the patient is incapacitated by this pelvic aching depends upon the strength of her nervous system—that is, upon her power of resisting

pain. If she is neurasthenic, she may feel so ill that she may wish to keep in bed. Whether she does so or not will depend upon circumstances. One patient of mine, a married woman with children, told me that she had always kept in bed for a day or two each month ever since menstruation began. I happened to know that before her marriage she had been a hospital nurse, and I asked whether she went to bed each month while she was nursing in the hospital. She said: "No; I had to keep up." I have no doubt there are numbers of young women earning their living in various ways—servants, shopgirls, barmaids, actresses, teachers—who, if circumstances permitted, would be glad to lie down; but they prefer to put up with the pelvic aching rather than run a risk of losing their situations. In these patients there is nothing the matter with any pelvic organ. The case is that the nervous system is weak, so weak that its power of resistance to pain breaks down under the stress of menstruation. One writer applies to cases of this kind the term "neurasthenic dysmenorrhoea." The objection to this term is that it suggests that the uterus is at fault, and that therefore the uterus should be treated. In these cases there is nothing the matter with any pelvic organ; the uterus is only fulfilling a physiological function, and no good, but possibly much harm, can come from meddling with it.

In nearly every local disease that causes pain this pain is worse about the time when menstruation begins. The dragging of prolapse, the sacral aching caused by a retroverted uterus, the pain of salpingo-oophoritis and pelvic peritonitis are all worse at this time. But the pain is not the acute spasms of dysmenorrhoea; it is the usual pain of prolapse, or retroversion, or pelvic peritonitis, as the case may be, rather worse than usual. We may explain it by saying that it is aggravated by the pelvic congestion which precedes menstruation, or that it is more felt, owing to the weakened state of the patient's nervous system. We may, it is true, meet with cases of painful pelvic disease who mention first, as the reason why they seek advice, the menstrual pain they suffer; but further inquiry will elicit that the menstrual pain is only one incident, and that there is, or has been, similar pain at other times also. It is true, also, that local disease confers no immunity against genuine dysmenorrhoea, and a patient may have real dysmenorrhoea as well as pain in the pelvis caused by a local morbid condition.

In many nervous diseases the symptoms are worse when menstruation is approaching or beginning. This is often the case in neuralgia, epilepsy, chorea, mania, migraine, etc. But aggravation of nervous symptoms by temporary lessening of the resisting power of the nervous system is not dysmenorrhoea. In a few cases some nervous disease may be complicated with actual dysmenorrhoea; but it is an accidental complication only. Such terms as "menstrual epilepsy," which imply dependence of disease on menstruation, have an ill effect, because they have led both doctors and patients to think that benefit in these diseases will follow the stoppage of menstruation. This is not the case. No benefit, in these diseases, follows removal of the ovaries.

Now I come to recant my own errors. I have written of obstructive dysmenorrhoea; but I think this would be better called by a different name. I have, like many others, written about "membranous dysmenorrhoea." The term implies that there is a resemblance, indeed an identity, between the pain caused by obstruction to the exit of the menstrual flow, or by the presence of a membrane, and the very severe pain of dysmenorrhoea.

If "dysmenorrhoea" be restricted to what I think should be its proper meaning, and is used to denote morbidly painful uterine contractions accompanying menstruation, then there is no such thing as obstructive dysmenorrhoea. There is sometimes obstruction to the exit of menstrual fluid, but if pain is caused by such obstruction it is only slight. I have seen more than once a vaginal portion with a circular external os so small that it would not admit the ordinary uterine sound, but the patient's menstruation was painless. After amputation of the cervix, the opening into the uterine cavity is sometimes contracted by scar tissue but menstrual pain, if present, is not severe. In congenital atresia of the genital passage leading to retention of menstrual fluid, although the history usually is of slight monthly attacks of pain, yet cases occur in which with

retention of menses lasting over years, and forming a tumour palpable by the abdomen, there has been no pain. I am not acquainted with any such case in which the pain has been anything like that of dysmenorrhoea. Therefore, I think these cases are better spoken of in language that denotes the anatomical condition present—namely, stenosis or atresia.

"*Membranous dysmenorrhoea*" is understood to mean pain caused by the menstrual decidua being shed in one or more pieces instead of in a pulp. I dare say most of us here are or have been under the impression that this is a disease both rare and painful. But I doubt its being either rare or painful. Those of us who have thought it so have formed that judgement from the observations of a few sensitive, intelligent, observant, and reflective patients. The patients have come to us because, being sensitive, they had monthly pain; because they had pain, being intelligent they examined their discharges; being observant, they perceived in them solid lumps; and being reflective, it occurred to them that these solid lumps might be the cause of the pain; and so they preserved the membranes and brought them to us. But those who have instructed nurses to thoroughly examine what passes from every menstruating woman have found that bits of membrane are passed far more frequently than is supposed. Scanzoni found them in two-thirds of women; Sir John Williams in three-fourths. Such a frequency suggests doubt as to whether the passage of membrane should be regarded as disease. The pain when membranes are passed is seldom great. When a miscarriage takes place the substance passed is bigger than the menstrual decidua; but, as every one knows, a doctor is not usually summoned to a woman who is aborting on account of the severity of the pain. Further, I have taken into hospital patients who came for treatment on account of menstrual pain, and who produced membranes which they had passed; and in the hospital, without local treatment, but only the benefit of rest, sound sleep, and good food, these patients menstruated, passed membranes as usual, but without pain. I draw the conclusion that most patients who pass membranes with pain, suffer pain not because membranes are passed, but because their nervous systems are weak; in other words, that pain in passing membranes is not dysmenorrhoea, but a manifestation of neurasthenia.

The disease to which, in my opinion, the term "*dysmenorrhoea*" should be restricted consists in painful uterine contractions which accompany menstruation. The pain has distinctive characters. Not all cases are alike in severity, but in the worst cases the pain is far more severe than any other kind of pain felt in the pelvic region without physical signs of disease. Acute peritonitis may cause severe pain. But in peritonitis there are physical signs—rise of temperature and pulse, and fixation of the uterus. In the worst cases of dysmenorrhoea the patient writhes, perspires, vomits, sometimes faints with the severity of the pain. The pain is not relieved by lying down. In pain due to inflammation or congestion of dependent parts of the body the patient feels better when she is lying down. But the pain of dysmenorrhoea not only is not relieved by recumbency, but if, as often is the case, in obedience to maternal advice the patient keeps in bed, she cannot lie still, she rolls, wriggles, and writhes with pain. Another feature of the pain, besides its great severity, is its short duration. The discomfort produced by the monthly congestion of the pelvic organs begins some days, sometimes even a week or more, before the flow appears, and it lasts until the flow is nearly or quite over. There are remissions in its severity, and the duration of the attacks and remissions is usually two or three hours. The spasmodic pain of dysmenorrhoea only lasts a few hours, seldom longer than twenty-four hours, and the duration of each spasm of pain is commonly only a minute or two, about as long as a labour pain. It generally begins with the flow.

I know absolutely nothing of the cause or causes of dysmenorrhoea. I know of no criteria from which to predict that a particular girl who is approaching puberty when she menstruates will have acute spasmodic pain; nor is anything known to me from which I can predict that a young woman who has menstruated for a few years without pain will suddenly come to suffer severely when this function returns. As I am unable to predict that pain will occur, it follows that I am equally unable to

prevent it. Antelexion, smallness or conical shape of the vaginal portion, and smallness of the os externum are conditions regarded as morbid by certain practitioners. People who study disease as it is seen in the dead body never find any morbid effects from these conditions. If they were really malformations capable of setting up trouble in connexion with menstruation, that trouble would always date from the beginning of the function. The view that dysmenorrhoea depends upon a malformation is to me inconsistent with the clinical experience that in about one-third of the cases the pain suddenly begins after years of painless menstruation.

There are those who say that dysmenorrhoea is usually due to endometritis. This kind of endometritis is like the so-called malformations—a disease unknown to those who examine dead bodies. I do not believe that, except very rarely as a result of accidental infection or a new growth, endometritis exists in virgins. As in two-thirds of the cases the pain dates from the time of the first menstruation, the endometritic theory postulates that endometritis occurs not only in virgins but in girls at puberty. Of this there is no evidence.

There is a disease in which we know at least the immediate cause of dysmenorrhoea. I refer to cases in which the uterus contains a small fibroid, and the uterine contractions are forcing it, first out of the uterine wall into the uterine cavity, and then through the cervical canal into the vagina. In these cases the pain is often severe and of the dysmenorrhoeal spasmodic character. These cases, nevertheless, do not invalidate my statement as to our ignorance of the causes of dysmenorrhoea; for we know not why fibroids grow; we can neither predict nor prevent their growth, and if we find a uterus enlarged by what we take to be a small fibroid, which is not at present giving trouble, we cannot tell whether it will grow larger or not, whether it will be expelled into the vagina or not.

Some writers, who have not learned to recognize the disease that I am speaking of, begin their advice as to the treatment of pain with menstruation by telling the pupil that he "should improve the general health." This is a platitude that applies to every patient, man, woman, or child. The writer might as well go on to say that the patient should have enough to eat and sufficient clothing. I know no condition of the general health that has anything to do with the production of dysmenorrhoea. Like many other nervous symptoms, it is apt to occur in young women with highly-developed sensitive nervous systems; but I know of no signs distinctive enough to enable us to predict that a particular girl, when she menstruates, will do so with pain. When dysmenorrhoea arises after years of painless menstruation patients often have an explanation of their own for it—such, for instance, as some mental or physical shock or strain. There are few patients who, if they are invited to think of something that may have made them ill, and will search their memories hard enough, cannot find some occurrence in their lives which will suit. But I have not been able to elicit any incident which has preceded dysmenorrhoea as frequently as anything which was really a cause of the disease should have done.

With dysmenorrhoea there is often indifference or repugnance to sexual intercourse. This may be so although intercourse is neither difficult nor painful, and such patients are generally sterile. In such cases cure of the dysmenorrhoea will often at once produce sexual desire and enjoyment, sometimes soon followed by pregnancy. I cannot say to what proportion of cases the above statements apply, because the matter cannot be inquired into as a matter of routine, but I have been told of it often enough to make me sure that it is more than a coincidence. In one case the patient's dysmenorrhoea was cured at a time when her husband was abroad, and the patient told me that she looked forward to her husband's return with feelings different from any that she had ever before experienced.

This close association of dysmenorrhoea with imperfection of the reproductive function seems to me to mark this disease as one *sui generis*. There is no such association with any other kind of menstrual pain, or with any other morbid condition of the pelvic organs that I know of.

I have already said that one of the most distinctive

features of dysmenorrhoea, as contrasted with pains of other kinds made worse by menstruation, is the extreme severity of the pain. This terrible pain reduces the pain-resisting power of the nervous system. The consequence is that reflected pain is felt over the skin supplied with sensory nerves from the eleventh dorsal to the second lumbar segments of the spinal cord. Touch the skin over this region while a patient with dysmenorrhoea is menstruating and she winces at once. When dysmenorrhoea has existed for years, the result of the oft-repeated periodical reduction of the strength of the patient's nervous system is that this reflected pain comes to last longer and longer, until at length, after many years, it may be practically continuous. I have also mentioned vomiting as an effect of the spasms of pain. At first the vomiting only occurs when the patient is in pain; but as years go by the vomiting, like the pain, lasts each month longer and longer; and I have known and published elsewhere the details of a case in which a patient died exhausted by incessant vomiting and inability to retain food, for which vomiting no cause was discovered except dysmenorrhoea; but I must admit that no *post-mortem* examination was made.

Dysmenorrhoea has no tendency to spontaneous cure. The only cure other than by medical treatment is child-bearing. Although the co-ordination of the menstrual and sexual function are both imperfect, and consequently the meeting *in utero* of the germ cell and the sperm cell is not helped as it should be; yet, nevertheless, the germ cell and the sperm cell may meet, and pregnancy occur; and then, in most such cases, dysmenorrhoea is cured.

One cannot help having some theory of the disease. My own is that dysmenorrhoea exists because the centre in the spinal cord, or in the sympathetic system which should regulate the movements of the genital canal, is imperfectly developed. The vagina, uterus, and Fallopian tubes are muscular organs, like the intestine. During labour there is contraction of the uterus to expel the child. There are morbid kinds of uterine contraction which I need not here dwell upon. During the sexual orgasm, I believe there is a co-ordinated muscular action of the Fallopian tubes, uterus, and vagina, having for its object to help the ovum into the uterus, and also the spermatozoa into the uterus. In a normal painless menstruation there are contractions of the body of the uterus, and dilatation of the cervix, so that the menstrual flow is expelled without pain or difficulty. My theory is that in dysmenorrhoea this natural dilatation of the cervix is absent, and, in consequence, the contractions of the uterine body are morbidly violent and painful. The only physical sign that I think I have observed in cases of dysmenorrhoea is difficulty in dilating the cervix. I say "I think" because I have no way of measuring the amount of force used in passing each dilator; and my impression may not be correct. But every now and then one meets with a case in which the nature of the monthly pain is not clear, or a patient who has little or no monthly pain, but is sterile, and wishes to leave nothing undone that can possibly favour pregnancy. In such cases I have advised and performed dilatation of the cervix as a possible, rather than a probable, source of benefit. My experience has led me to expect that when the cervix dilates slowly and with difficulty the dilatation will cure the dysmenorrhoea; but that when one dilator after another slips in without more than trifling resistance, the object of treatment will probably not be attained. The disease is not from obstruction. Although I have conjectured that the pain is because physiological dilatation or relaxation, if that word be preferred, does not take place, yet the canal in its undilated, unrelaxed state is quite big enough to let the patient bleed to death through it. In fact, young virgins have bled to death through the cervical canal. Nobody has ever yet seen retention of blood in the uterine cavity as the result of dysmenorrhoea, even when the vaginal portion is supposed to be infantile, or long, or conical.

As to Treatment.—I shall not discuss the palliative treatment—that is, the relief of pain when it has arrived. It resolves itself into the local application of heat and swallowing of coal-tar analgesics. The cure is to prevent the arrival of the pain. Every case of dysmenorrhoea can be cured. The unfailing cure is to stop menstruation. The question is whether, in a particular case, this remedy

is not worse than the disease. Fortunately it is seldom that this extreme measure is required.

The first and simplest treatment is by a drug. There is one drug that will cure some cases of dysmenorrhoea. That drug is guaiacum. I prescribe 10 grains of guaiacum resin three times a day, begun a week before menstruation is expected, and continued until the time at which the pain usually occurs is past. It may be given in a mixture either with milk, as in the *British Pharmacopoeia*; or with gum tragacanth, as in the London Hospital pharmacopoeia; or mixed with malt extract; or in a cachet. In some cases this drug will prevent the pain from coming on, or lessen its severity when it does come. I cannot say what proportion of cases it cures, for it is so difficult to follow up the histories of this class of patient; but I have seen instances enough to make me sure that the relation between the drug and the disappearance of pain is more than coincidence. A patient consulted me in January, 1902, being then unmarried and aged 21. She had suffered from dysmenorrhoea for two years. The pain was paroxysmal, it was not relieved by lying down, and it was so severe as to make her vomit. I did not examine her, but prescribed guaiacum. A few days ago she told me that since taking the medicine she had had no more of the old monthly pain. She had been now married three years, but was sterile.

If drug treatment fails, the next thing is to dilate the cervix. This is best done with metal bougies, and, when the patient is young and unmarried, under anaesthesia. As a rule, the passage of bougies up to No. 12 on the catheter scale is enough to cure the patient, but, if the patient is anaesthetized, it can be carried a little further without harm, and possibly greater certainty of cure. In the days of my professional youth it was the general practice to cut through the vaginal portion with scissors, in one or more places, and this was often successful. But dilatation is, I think, more certain, for it dilates the whole canal, and not the os externum only. If the os externum is very small and circular, I should still advise its division, to avoid, in case of subsequent pregnancy, slowness of the first stage of labour.

Most cases of dysmenorrhoea are cured by dilatation. The relief may last throughout the whole subsequent duration of the menstrual function. It may last only for a few months, and then a repetition of the dilatation may lead again to relief, this time probably of longer duration. I know no more of the cause of the relapse than of the original cause of the disease. If the patient is married, the dilatation favours pregnancy.

The natural cure for the disease is pregnancy. This involves the utmost possible dilatation of the cervix, the dilator being the baby's head. But this cure is not available for every patient.

Unfortunately, it must be admitted that there are cases in which all treatment fails, and the pain is very severe. I have already pointed out how each monthly storm of pain breaks down the resistance of the nervous system more and more so that the reflected pain comes to be more widely and severely felt, and lasts longer each month, until the patient becomes an invalid for many days each month. If when the patient is reduced to this condition she yet has no prospect of marriage, and is willing to renounce the potentiality of maternity, I think she is entitled, if she chooses, to be cured by having menstruation stopped—that is, by having her ovaries removed. Special circumstances may induce us to listen to this request from a young woman. If she has no relatives who can support her, if she cannot keep any situation because of the illness which each month prostrates her, and all other treatment has failed, what is to be done?

This brings me to the reason why the limitation of the term "*dysmenorrhoea*" is not a mere verbal quibble or pedantic futility. To so limit the word is to recognize that genuine dysmenorrhoea is a different thing from disease the symptoms of which are worse when the patient menstruates. In cases, for instance, such as what one writer calls "*neurasthenic dysmenorrhoea*," which means a patient with neurasthenia who feels worse about the time of menstruation, after stopping menstruation by removing the ovaries, the patient is no better, for menstruation is not the only thing that makes such patients worse; and very likely the disappointment of the relief she hoped for, and the sense of the value of

the potentialities she had lost, will make her worse. So with so-called menstrual epilepsy, neuralgia, etc., taking out the ovaries only removes an occasional exciting cause; it does not cure the patient, and may make her worse. But if the primary original disease was dysmenorrhoea, and the added neurasthenia has been produced by the severity of the pain with menstruation, the patient will be cured if menstruation is stopped. Before advising so grave a measure as oophorectomy the great thing is to be sure that the pain and the prostration spring from menstruation and from nothing else. The practitioner will be in an unenviable position who hastily proposes removal of the ovaries for a few attacks of colic due to flatulence or constipation. But careful observation ought to prevent such a mistake.

ON THE IMPORTANCE OF PAIN AND HAEMORRHAGE AS SYMPTOMS OF EXTRAUTERINE GESTATION.*

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Few of the conditions which come under the notice of the gynaecological surgeon are of greater interest in diagnosis than extrauterine gestation. Occasionally cases occur which present features so striking and so characteristic that their nature is readily recognized. But this is not always the case, for the clinical features may be so complex as to puzzle the most experienced observers. And not only are the clinical features complex, they are also subject to extraordinary variation in character and severity, so that it may be difficult to believe that the same pathological condition has given rise to them all. The explanation of these difficulties lies in the fact that the symptoms associated with extrauterine gestation arise, not directly from the presence of the growing ovum in the Fallopian tube, but from certain secondary lesions, either traumatic or inflammatory, which supervene.

These secondary lesions may be briefly enumerated as follows:

1. Intraperitoneal flooding from tubal abortion or rupture.
2. Intratubal bleeding, leading to acute distension of the tube, the abdominal ostium being sealed.
3. Slowly progressive or recurrent haemorrhage, leading to the formation of encysted collections of blood—for example, *pelvic haematoma*, in the broad ligament; *pelvic haematocoele*, in the pouch of Douglas; *peritubal haematocoele*, around the abdominal end of the tube.
4. Infection of the gravid tube, or of an encysted collection of blood, leading to suppuration.

Until one or other of these secondary lesions is produced, extrauterine pregnancy gives rise to no more local or general disturbance than does an early pregnancy in the uterus. An important symptom associated with this phase—namely, a brief period of amenorrhoea—is a most useful aid in diagnosis, but it is by no means always present. When a healthy adult woman, who is usually regular, goes for two or three weeks over the expected date of her period, there is a strong presumption of pregnancy, but at this time there is nothing to indicate whether pregnancy is uterine or extrauterine. In the latter case, however, amenorrhoea is of very brief duration, seldom more than seven or eight weeks, and then gives place to haemorrhage. In something like 30 per cent. of the cases which have come under my own observation there has been no amenorrhoea at all, and I am satisfied that while this symptom forms a useful positive indication, no importance whatever can be attached to its absence. As it is quite unusual for an extrauterine gestation to continue undisturbed beyond the end of the second month, there is consequently no time for the appearance of other general symptoms of pregnancy. But occasionally morning sickness and early breast changes may be met with. When the course of the gestation becomes interrupted by any of the occurrences mentioned above, the clinical features

undergo rapid transformation, and symptoms appear which we are accustomed to regard as those of extrauterine pregnancy; they are, however, in reality those which result from the interruption of the pregnancy by injury to the developing ovum or to its containing sac.

These symptoms, which it is clear ought to be regarded as *secondary symptoms*, are subject to great variation in their character and intensity in correspondence with the nature of the lesion which has given rise to them. The occurrence which is the simplest and the most easily recognized is *intraperitoneal flooding*; the symptoms which attend it are uniform and characteristic, and when a clinical history of amenorrhoea can be obtained, and a careful pelvic examination made, mistakes are hardly possible. Perforation of a hollow viscus, such as the stomach, duodenum, or gall bladder, is the only condition for which it is at all likely to be mistaken, even under circumstances unfavourable for diagnosis. The following case, which is typical of its class, illustrates the remarkable simplicity of the diagnostic problem.

CASE I.

On May 6th, 1904, I was asked by Dr. Hooper, of Sutton, to come down at once to see a case which he believed to be one of ruptured extrauterine pregnancy. The patient was a tripara, 32 years of age, her last confinement having taken place fifteen months previously. In March, 1904, she had a regular period; in April she went six days over her time, when slight bleeding occurred and continued for eight days; after an interruption of twelve hours, it recurred, and continued unchanged up to May 6th. Owing to the haemorrhage, she was kept to bed from May 2nd onwards, and treated with douches and small doses of ergot. On the afternoon of May 6th, while using the douche, she was seized with sudden severe abdominal pain, accompanied with an urgent desire to relieve the bowels. She remained straining at stool and in great pain for some time, and then fainted. Dr. Hooper, when summoned two hours later, at once recognized the signs of severe internal haemorrhage, and I saw her about five hours after the onset of the acute abdominal pain. She had vomited several times, but her general condition had then begun to improve; the face was pale and drawn, the pulse was very small and its rate about 100, the temperature was subnormal, and the skin cold and rather moist. She complained of severe epigastric pain, but was not restless. The abdomen was not distended, but there was marked tenderness over the hypogastric and left iliac regions, which were also dull on percussion. On vaginal examination, a soft swelling was found in the pouch of Douglas, and a firmer, better-defined mass to the left side of the uterus. We had no difficulty in recognizing the case as one of left tubal pregnancy with intraperitoneal flooding, probably due to rupture. It was pretty certain that the bleeding had for the time ceased, and we therefore spent some hours in restorative measures, and operated the next morning, when her general condition had greatly improved. About 30 oz. of fluid and clotted blood were removed from the peritoneal cavity, and in the isthmial portion of the left tube was found a rupture with a small cuboid-shaped mole attached to it. An illustration of this specimen appears in the author's textbook of *Midwifery* (Fig. 60). The tube and ovary were removed and the patient made a good recovery, and has since then given birth to another child.

It is obvious that the diagnosis of a case of this class is a comparatively simple matter, but the symptoms which preceded and attended the rupture of the tube are of great interest and importance. In the first place, it is to be observed that slight haemorrhage, following a brief period of amenorrhoea, had been going on for three weeks before the tube ruptured. Haemorrhage from the uterus is a secondary symptom of extrauterine gestation which is constantly present. If no period of amenorrhoea has occurred it forms the initial symptom, if there has been amenorrhoea it succeeds it. In the great majority of cases it is the earliest indication of anything wrong, but as the same thing frequently occurs from disturbance of a uterine pregnancy, little importance is usually attached to its appearance either by the patient or her doctor. The haemorrhage is slight or moderate in degree, sometimes continuous, sometimes irregular; and, as the late Dr. Cullingworth pointed out, it is usually dark, thick, and syrupy in appearance. It may continue for several weeks if the patient is not relieved by operation. The bleeding is no doubt due to separation and discharge of the uterine decidua, sometimes complete, more often in fragments; but in the majority of cases the pieces of membrane do not attract attention, and are not detected by the medical attendant.

This attempt on the part of the uterus to throw off its decidua when the tubal ovum has been damaged is a most interesting phenomenon. Some reflex mechanism is no

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