A Clinical Lecture

ON

THE DIAGNOSIS OF PREGNANCY.

Delivered at the Medical Graduates' College and Polyclinic.

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GENTLEMEN—When I was asked to give this lecture I proposed a very ordinary subject, and I hope that in choosing it you will not think I am taking one which is too elementary for discussion. What made me select it is the fact, which I suppose we all know and recognize, that medical men are constantly in difficulties in making a diagnosis, and hesitate to give a decided opinion, yes or no, as to whether a particular person is pregnant, and that mistakes from time to time occur which ought to be avoided. Therefore I thought it would be worth while to go over certain points in the diagnosis of pregnancy which appear to me to be more essential than others, as well as the points which, if we can recognize, we ought to make a certain diagnosis. When a patient comes we first of all inquire, or certainly ought to do so, as to her menstrual history, because the menstrual history of a patient gives one a very close clue as to the nature of her case. For instance, given she has got an abdominal tumour, an authentic menstrual history is of great value. Of course, all who try to obtain such histories know the difficulties. Most women, however highly educated, unless they have been educated in medical matters, are in the habit of speaking of all haemorrhages from the uterus as menstruation; and when we ask a woman who is some months pregnant when her last poorly time was she will sometimes tell you it was only last night, or a week ago, or a month ago, as the case may be, referring not to menstruation but to haemorrhage. That I need hardly say is not an authentic history, but it is a very common source of error. What we have to ask the patient is, when was her last regular monthly time? At what date was the last of the regular series? If we can obtain a date up to which the monthly times occurred regularly, followed by a sudden cessation, then, if she is of child-bearing age, single or married, we have the highest reason to presume she is pregnant. I am certain that this is a rule of the highest value. So you will observe that if a woman has amenorrhoea for a period of anything under nine months, and that woman is of an age to bear a child, we, as doctors, are wise in assuming that woman is pregnant until we have proved she is not. Naturally, such an assumption in the case of a single woman would be one in our own minds only, and we should take every care to verify it before expressing an opinion. If, then, we assume that the patient is pregnant and that our business is to prove she is not, we are far less likely to make mistakes, whatever difficulties we may have to meet with. Moreover, if we assume this, it will make us very careful how we examine our patient. Abortions caused by medical examination I should attribute to negligence, and they are not rare. Some are almost criminal when the negligence is gross and there has been an ignoring of the first principles of diagnosis. We do not suppose a doctor wants his patient to abort under ordinary circumstances; yet it is not a very uncommon thing. If a woman has not menstruated for three months and the medical man passes a sound into the uterus, there is either gross negligence on his part or his intentions are criminal; there is no burking the fact. I think in the majority of cases this happens because the doctor has not recognized the probability of his patient being pregnant; he has not sufficiently realized that that patient has not menstruated for three months, and that her menstruation was quite normal up to then. Now, what other conditions would give rise to such characteristic amenorrhoea? You all know the amenorrhoea of phthisis and anaemia, but that does not occur suddenly; it is a gradual diminution of the menstrual flow until at length it ceases. But in the case of pregnancy the woman menstruates one month, and does not menstruate the next or in the succeeding months. Again, the reverse is true. A woman who menstruates normally each month we may assume is not pregnant. None of us would say that menstruation during the early months of pregnancy is impossible. But to say that a woman who is pregnant menstruates, except under quite exceptional conditions, is absolutely contrary to fact. Women do not menstruate when they are pregnant. The losses of blood which occur in pregnancy are almost invariably patho-

logical; they are haemorrhages, and not physiological menstrual losses. So I would lay great emphasis on this first point, that the history of regular menstruation up to a certain date and then its sudden cessation is one of the most important pieces of evidence which we can have, and it is therefore most important that the history with regard to menstruation should be obtained correctly. After that, the further information which we can obtain would cover such details as morning sickness and quickening; and I am sure it is unnecessary for me to make any further remarks on those two points. We know what quickening is, although we may use the term in a very loose way. Quickening is the first time a woman feels her baby move, and is often a very uncertain thing. Many a woman may think she feels her baby kicking about inside her who is not even pregnant; I am sure we have all seen instances of this.

Next we come to a point which is of the highest importance, namely, the examination of the breasts. I do not know how many of you gentlemen are in the habit of examining the breasts with the view of determining whether a given woman is pregnant. It is obvious that different values are placed upon the evidence to be obtained in this way, and different opinions are held, even among men of great experience, as to the value of an examination of the breasts with the view to determining pregnancy. I have heard it stated that it was of so little value that it was not necessary to waste one's time over it. My opinion is quite the reverse. I believe that in a very large number of cases you can tell by examining the breasts whether the woman is pregnant with almost absolute certainty. Of course, we meet with cases in which the activity of the breasts simulates that due to pregnancy without the woman actually being pregnant. It is important that we should always keep our minds open for exceptions. Under certain conditions the appearances of the breast are so demonstrative of the existence of pregnancy that in a young woman one need hardly make any further examination. What are those conditions of the breasts? I think they may be summed up in a way which is a little different to that adopted by the books. The breast, from the time of birth of the individual until the time of pregnancy, with certain exceptions, is an organ as passive as an empty stomach, with very little activity of circulation, and very little evidence of any activity at all. But as soon as the ovum is impregnated, that is to say within a few days, the changes begin to occur in the breasts, and changes which are just as well marked as are the changes in the uterus and the vagina, which, from the commencement of pregnancy, prepare for the labour which ought to follow nine months afterwards. These are changes in the direction of marked activity of function. An organ which was previously quite passive—not necessarily flaccid—without activity of circulation and the effects of active circulation, begins to grow and continues to grow in activity and size as pregnancy progresses. In the breast I am sure we may well speak of the signs of activity and contrast them with the passive condition previously existing. Now, what are the exceptional conditions which may give rise to a certain amount of activity in a woman's breasts when that woman is not pregnant? I have seen activity of the breasts so marked that I have said to my clinical clerks, "Here you see a typical and characteristic case of activity of breasts; this patient is almost certainly pregnant," but when I have examined her further I have found she was certainly not pregnant. Such occasional exceptional cases must be faced if we are going to place a proper value on these signs as evidence of pregnancy. If we do not recognize the exceptions—and I would not wish to persuade any one that these signs I have mentioned are infallible—the value of the signs would be lost. Of all the signs which are given there are only one or two which are infallible, and certainly the activity of the breasts is not an infallible sign, but it is of the highest value, and of such value that you can form an opinion of the highest importance when you recognize the condition. With regard to the conditions which sometimes give rise to activity of the breast, you may sometimes see it in girls at puberty; at such a time the breasts may be a little swollen and the vessels beginning to dilate, and they are visible on the surface, a very important sign. Moreover the breast is a little tender, and there might be a slight exudation from the nipple. These may occur at puberty, and I have seen them at the climacteric. I have also seen them in certain cases of tumours of the ovary. But it must be remembered that tumours of the ovary do not in the great majority of cases affect menstruation at all. There is a tendency to think that these tumours produce amenorrhoea, but it is not so. That is too big a question to go into in this lecture, but

as a statistical fact it is a very small proportion, not more than 5 to 10 per cent. of women with ovarian tumours whose menstruation is altered in the least by their growth. If there is continuance of normal menstruation with activity of the breasts, the activity of the breasts becomes of no value.

Now, what does activity of the breast in pregnancy consist of? The breast becomes larger from hypertrophy and increased vascularity, and this information you can obtain from the patient. The activity of the circulation means that all the vessels are dilated, and those on the surface become more and more easily visible. This is a piece of evidence which, taken in conjunction with the other breast signs, is of very great value. But bear in mind again that there is not a single sign or symptom of pregnancy which is not misleading unless we know the exceptions. What are the exceptions? They are such as that presented in a patient I saw at St. Bartholomew's recently, a girl of 17 who had not menstruated, but who had very clear and transparent skin without any pigment in it—so clear that any one could see the larger vessels underneath. If you have a girl wasted with phthisis or any other wasting disease, with a transparent skin, bear in mind the possibility of the vessels being visible simply because of this transparency of the skin. This does not represent the activity of function. The activity of breasts produced by the increase of the circulation is such that if you have once thoroughly recognized it you are not likely to mistake it for anything else. With the activity of circulation comes pigmentation of the areola, and the formation of what is spoken of as the "secondary" areola, which means nothing more than the extension of pigmentation in irregular patches beyond the limit of the normal areola.

Next we examine the substance of the breast itself. Of course, in different women the breasts give different sensations to the touch. In many women, through an excess of fat, the breast feels to be an elastic and homogeneous mass; while in another woman who is spare and has no great amount of fat you can feel the outline and lobules of the gland. In a woman whose breasts are active the whole surface of the gland presents a shotty, irregular surface. It requires only the lightest pressure with a finger to ascertain this. The man who grabs the breast in his hand in order to try and squeeze milk out of it will not appreciate this condition; but if he gently supports the breast, if it be pendulous, with one hand and then lightly presses through the subcutaneous fat until he feels the surface of the gland, he will easily recognize the shotty sensation due to the enlarged acini. If he does feel it he will know unmistakably that the breast is in a state of activity. He will know that the lobules and acini of the breast are undergoing hypertrophy; and this fact, taken in conjunction with the activity of the circulation and the pigmentation, affords evidence of the highest value. But by itself it is not to be taken as evidence of more than moderate activity.

Lastly, we endeavour to ascertain the presence of secretion, bearing in mind that in a woman who has borne children the breasts may contain thin colourless fluid for months after weaning. So I would not take much notice of secretion in the breast unless it is associated with those other signs of activity which I have alluded to, that is to say visible vessels, increased pigmentation, and the rest of it. How often do men fail to find secretion in a breast in which it is present? In some cases there is only a very little present, and unless you begin your pressure at the base of the gland, taking hold of the breast in your hand, and with the gentlest pressure squeeze the breast from the base up to the nipple, very slowly, you will not find the secretion. Now, can we rely upon these signs in the case of a multigravida? Certainly, if the evidence is there, if you have got all those signs I have alluded to and the woman has not recently weaned a baby, or miscarried, if there has been a reasonable time for the breast to have recovered its passive condition, and these signs I have spoken of are marked, there is evidence of a most important kind. But I would also say that they are not always of the same unmistakable character as they are in the case of a primigravida. It is hardly necessary to remind you that if you have to tell a single woman that she is pregnant you must take care to have your evidence in all essentials complete.

Next we have to consider the examination of the abdomen, which presents points most easy to obtain, as well as some of great difficulty. The evidence which we want can only be obtained by having the patient sufficiently undressed and lying on a convenient couch or bed or sofa for the purpose. Unless this is done you cannot examine her properly, or over-

come any of the difficulties which you may meet with. The examination must be done in an efficient way. When the patient is so placed we might almost at once get rid of the case in which directly you put your hand on the abdomen you feel the child give you a kick. Yet many a man will not be satisfied unless he can hear the fetal heart. In advanced pregnancy—and I would call any period over six months advanced pregnancy, or even after the fifth month—to feel the fetus and recognize its movements is the simplest as well as a final method of diagnosis. It is the easiest of all. If you feel a kick from the foot or some movement of the limbs of the child you must know at once what it is due to; there is nothing else in the abdomen which can kick you. In the presence of this kick or movement one would have thought it was impossible to make a mistake of diagnosis.

I think it is hardly necessary for me to occupy your time in going over the diagnosis of pregnancy when it is advanced; I think we may spend our time to better advantage over a far more difficult thing, namely, the diagnosis of pregnancy in the early months. The early months I regard as the first five. You will not be likely to feel the fetus before the fifth month, but if you do your diagnosis is easy enough. What we have to do is this: to ascertain if a woman is pregnant who has missed her periods for two, three, or four months. I do not say we can diagnose these without making some mistakes, but in the majority of cases we ought to diagnose them without much difficulty; and the way in which it can be done is the way in which I may be of some use to you on this occasion in explaining. We must remember that the uterus, lying as it does normally in the brim of the pelvis, begins to expand and ascend at the commencement of pregnancy. Normally the uterus lies just behind the pubes, and the cervix is towards the middle of the sacrum. When pregnancy commences the uterus begins to expand and ascend, and it creeps up the abdominal wall regularly, to a measurable extent month by month, until it reaches the great landmark—the navel—at the end of the fifth month, which, of course, is the beginning of the sixth month. The average distance between the lower border of the navel and the pubes in an ordinary English woman is about 6 in. In some it is $5\frac{1}{2}$ in., and in others as much as 8 in.; but $5\frac{1}{2}$ in. to 6 in. may be regarded as the usual distance. That point, as I have said, the uterus reaches at the end of the fifth month. The uterus rises towards that point at the rate of $1\frac{1}{4}$ in. per month above the pubes. Over and over again when one has to diagnose these cases I say to the clinical clerk who has ascertained the date of the last menstrual period, "At what height ought we find the fundus uteri above the pubes in accordance with this allowance of $1\frac{1}{4}$ in. per month?" Having decided this point, he proceeds to palpate the hypogastric region, finds a tumour, and with a tape measure ascertains that its height is very close to the point we expected. There is evidence easily obtained and of the highest value. You may say, but it is not easy to recognize that this is the pregnant uterus. I admit it and I can give you an instance of this in a case in which I operated only the day before yesterday. There was a patient whom I saw with her doctor who was supposed to be in the fourth month of pregnancy. For her last four periods her menstruation had come at the right time, but it had been scanty, and she had an enlargement of the abdomen, which her doctor believed to be due to pregnancy. I said, "Here is a menstruation uninterrupted, though scanty, which shows she almost certainly is not pregnant." He said, "But she is, she is certain she is pregnant." I took the measurement and found it right according to the period of the supposed pregnancy, that is to say, 5 in. above the pubes, and I began to think I had made a mistake. But when I examined bimanually I found her uterus lying below the tumour, which was ovarian. We removed the tumour and verified the diagnosis of a retroverted non-pregnant uterus with this tumour on the top of it. Well, how are we to measure the uterus? We must use ordinary precautions. We cannot do this examination without having ascertained that the patient's bladder is empty. There is nothing more likely to mislead us as a distended bladder or loaded rectum. Then by gentle palpation with the fingers you will very easily be able to recognize the outline of what you afterwards, by bimanual examination, prove to be the uterus. When you have found the fundus, the position where, on percussion, resonance and dullness meet, mark it with a pen or pencil, and then measure its height in inches. If you allow $1\frac{1}{4}$ in. of rise above the pubes per month you will have evidence of a very valuable kind, and evidence which it is not difficult to obtain unless there are certain complications, such as retroversion of

the uterus, excessive fat, or a complicating tumour in the abdomen. If the patient is exceedingly nervous and holds her abdomen stiffly, it must be done under an anaesthetic. If pregnancy is advanced, what other evidence can we obtain? You do not wish me to go into a discussion with regard to the fetal heart; but there is one point about the fetal heart which I would mention: that if a man goes to find a fetal heart without knowing where it ought to be found, he is only making himself great difficulties. One cannot hear the fetal heart in the child's breech, nor in its head, nor in the liquor amnii, nor in the mother's bowels. You must find out how the child is lying. And if you find that out you do not need to find the fetal heart in order to prove whether the woman is pregnant. So the evidence of the fetal heart is, in my opinion, of very secondary importance. But if you want to hear the fetal heart in the middle months of pregnancy, where should you listen? You must not expect to hear the fetal heart until the uterus reaches the navel, at the end of the fifth month, and even then one often fails to hear it. I think it is best to take the middle point of a line, joining the centre of the fundus of the uterus to the centre of the top of the pubes. If the fetal heart is not at that point it will be a very little to the right or to the left. But when the pregnancy is advanced we can feel the fetus. I refer to that because these methods of palpation of the abdomen are things which we were never taught as students, for it is only in the last few years that the methodical examination by palpation has gradually superseded a great deal of vaginal examination. It never will entirely supersede it, and never can; but it is infinitely easier to make out not only the presentation but the position of the whole fetus by abdominal examination rather than by the vaginal examination.

And if you have outlined the fetus you know where to find the fetal heart. And if you want to teach a nurse how to find the fetal heart do not teach her to use the stethoscope; teach her to apply her ear direct to the spot you mark out. Nurses very quickly in this way learn to find the fetal heart. There is another point with regard to the examination of the abdomen, and that is the recognition of contractions of the uterus. A great deal of stress is laid by some on what is called the rhythmic contraction of the uterus. I would not say there is no such thing, but I would say with great certainty that it is very rare to meet with anything like rhythmic contractions. Contractions of the uterus are one thing, but rhythmic contractions are totally different. Contractions of the uterus may be produced reflexly, such as by the application of the cold hand, and in some women far more easily than in others. If you could sit for days by a woman's side and note the contractions, you might be able to find some regularity about them, but of course that is not feasible. Now, are contractions of the uterus alone evidence of pregnancy? They would be strong evidence of pregnancy, but, like other signs of pregnancy, they are not altogether diagnostic, for in some cases of fibroids the uterus contracts, just as a gravid uterus does. With regard to the uterine *souffle*, this is more easily heard than the fetal heart, and yet we know it is not a reliable sign of pregnancy. It is frequently heard in cases of fibroids, and occasionally in cases of ovarian tumour.

To conclude: I would remind you that the diagnosis of pregnancy may be made easily and absolutely by feeling the fetus and its movements, and in the earlier months, from the history of amenorrhoea the recognition of the marked activity of the breasts, by finding the uterus enlarged and reaching to a definite height above the pubes, allowing $1\frac{1}{2}$ in. for each completed month of pregnancy.

ON RECURRENT ABORTION,

WITH SPECIAL REFERENCE TO THAT FORM DUE TO DEFICIENT VITALITY OF THE MOTHER, OR BOTH PARENTS, AND OFTEN ASSOCIATED WITH SOME HISTORY OF TUBERCULOSIS.

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BUT little has been written on the subject of recurrent or habitual abortion—that is, abortion occurring repeatedly in the same individual. In Playfair's *Midwifery* there is only one short paragraph, in which, after mentioning syphilis and uterine flexion as exciting causes he suggests (p. 281) that in many women a "habit" of abortion is induced, and hence, I suppose, the name "habitual." In Winckel the subject is

only mentioned incidentally. In Lusk, Dührssen, and Galabin it is practically ignored.

In Norris's *Textbook of Obstetrics* there is a short section dealing with systemic, recurrent, or so called "habit" abortions, in which both syphilis and tuberculosis are mentioned as causes not only by transmission of these diseases to the placenta or ovum, but also by simply lowering the mother's vitality. Syphilis is naturally said to be responsible for most recurrent abortions.

An original and interesting paper, entitled *Habitual Abortion*, was written by Dr. Leith Napier about twelve years ago, and is published in the *Obstetrical Society's Transactions* for 1890. Under this heading, however, Dr. Napier includes, I think, quite a large number of cases that would be rejected by others. Of 31 cases of so-called "habitual aborters" reported by him every one had borne one or more children at term, and the majority (no less than 17) appear to have actually had more deliveries "at term" than abortions. Probably on account of this he deduces that syphilis is a comparatively rare and unimportant factor in causation.

My own classification is much more rigid and severe. I include under the title of recurrent abortion only those cases where from the beginning or from some definite epoch the patient has aborted with every (succeeding) pregnancy, and, with one exception only, I have restricted it to cases of initial or primary recurrent abortion; that is, to patients who from the beginning of their married life until the date of coming under observation have never been able to bear a living child at term.

The nomenclature of the subject is of some importance. All the references, such as they are, of the older writers appear to be under the heading or name of "habitual" abortion, and this is objectionable as involving a theory of causation which probably has no foundation in fact. The idea that the uterus can, without any exciting cause, form a habit of aborting at a certain period is only an idea, and now that the larger number of frequently-recurring abortions have been traced to syphilitic disease of the endometrium or placenta or fetus, there is no real justification for its continued use. Moreover, the so-called "habit" in cases of syphilis, especially if the patient be under treatment, tends to alter with each succeeding pregnancy. Recurrent abortion then is a better term than habitual abortion.

What are the causes of recurrent abortion?

Syphilis is undoubtedly one of the chief of these, and is responsible for a large number of cases. But any one who has the charge of a gynaecological clinic will soon become aware that there are several marked cases of recurrent abortion which either are not syphilitic, or, if syphilitic, are attended by no history or signs of syphilis, do not follow the usual course of syphilitic abortions, and are in no way benefited by antisiphilitic treatment. Indeed, it was the legacy of one or two of these cases which had been already vigorously but unsuccessfully treated by mercurials and iodides which first drew my attention to the subject.

Now if these cases of recurrent abortion be carefully investigated it will be found, I think, that most of them fall at once into one group having many features in common, and probably having a common causation, while a minority are distinctly separable, not only from these and from the syphilitic class, but also from one another, and belong rather to the exceptions or individual instances, which are too rarely met with to form any very well-marked class or group.

Let us take these first.

Of these rarer forms of recurrent abortion a few are due to intraperitoneal adhesions, and especially so far as my experience goes to those associated with chronic appendicitis. Most intraperitoneal adhesions involving the uterus (whether operative or otherwise) either stretch or give way or are put up with by the (growing) pregnant uterus, but some adhesions will not allow of this, and especially perhaps those graver adhesions which fix the caecum and appendix to the right appendages and uterus. There comes a time when the uterus cannot enlarge further without starting fresh and sometimes fatal mischief, and then the uterus either empties itself or some leakage with acute appendicitis may take place, or both abortion and peritonitis may occur almost simultaneously.

A case in point occurred in the practice of Dr. Taylor Haddow, of Hurst Street.

H. S., aged 22, had been married three years, and during this time had had four miscarriages of four or five months' duration, but no living child. There was no history of syphilis. On February 12th, 1898, she miscarried for the fifth time, the pregnancy having advanced six months. Four days before this she complained of some pain on her right side. On the evening of the 16th I saw her with Dr. Haddow and found acute appendicitis