"In conclusion, it is necessary to remember that, besides natural and morbid conditions of patency, there may be unnatural absence of temporary patency, or of occasional dilatation of the tubes; for it is probable that they dilate during sexual excitement, and permit the passage of the semen. Indeed, it is scarcely conceivable that semen can permeate the tubes while they are in their usual closed state. This absence of dilatability of the tubes, or their rigidity, may thus be a cause of barrenness.

"The proposition of Tyler Smith to catheterize the tubes, and thus cure sterility, was brought forward under the influence of different theoretical views from those expressed in this paper. It has, as yet, led to no more practical result than the proposal of Froriep to close them by cauterization, in order to produce sterility."

Of course I need hardly say that I regard such views as Dr. Duncan here expresses concerning the passage of semen up the tube as wholly contrary to fact, and quite irreconcilable with what I have already said concerning the physiology of the tubes.

Simpson relates a case of simple hypertrophy of the muscular coat of the walls of the tubes. Various authors also mention tumors as having been found in their substance, but the majority of these cases are not described with sufficient minuteness of anatomical detail to enable us to accept them implicitly. Myomata of small size, as we might expect from the structure of the tubes, have been repeatedly found, and about their occurrence there can be no doubt. Cancer and tubercle extend into the tubes from the uterus; but we may dismiss all these conditions by saying that their diagnosis is impossible, and that it would be of little importance if it could be made.

Occasionally calcareous concretions have been found in the tubes, possibly the result of old, chronic abscesses. The clinical history of such cases is never given. The organ of Rosenmüller, a small cyst which remains from the ducts of the Wolffian body, is a curious feature of the outer part of the tube. I believe that sometimes it undergoes cystic enlargement, and should be treated as an ovarian tumor. In one of my recent ovariotomies I found it to be about four or five times its usual size, and I removed it.

One of the most important abnormalities of the Fallopian tube is that in which the ovum comes in contact with spermatozoa during its passage through the canal, becomes adherent to its walls, and develops into a Fallopian pregnancy. This accident occurs probably when the ciliary action of the mucous lining is destroyed by some desquamation or other accident, for I

have already stated that I do not believe that impregnation takes place in the tubes save under exceptional circumstances, and when it does occur the probabilities are great that the fertilized ovum will there contract the adhesions which it ought to have in the uterus. When this misfortune does occur, the tube expands to a certain limit, that limit being reached between the second and third months of pregnancy, at which time rupture usually takes place. In the vast majority of cases that rupture is fatal, and I am sure that there is no experienced gynecologist who has not seen at least several instances of it. I have known at least twenty post-mortem examinations of women who have died from ruptured tubes. In not a single instance which I have seen, nor in any of which I have found record, has the pregnancy been anywhere but in the tube. The cause of death in these cases of tubal rupture is invariably hemorrhage, and the source of hemorrhage is the enlarged maternal vessels at the site of the placenta. Unfortunately, it is just here that the rupture nearly always occurs, because the tissues are thinner, more vascular, and more easily torn than elsewhere. These facts I was able abundantly to prove in a case which I attended with my friend Mr. Hall-Wright, in which I removed the parts *en masse*, and succeeded in injecting them perfectly. Occasionally this rupture takes place without hemorrhage, or at least without fatal hemorrhage, and the patients survive the accident. In what percentage this fortunate issue occurs we do not yet know, but it is probably not large. By the rupture the ovum is extruded into the peritoneal cavity or between the layers of the broad ligament, the latter being an exceptional and a very favorable occurrence, because the patient is not likely to die of the hemorrhage.

It was after the dissection of a case of this kind, described by Dezeimeris as "subperitoneo-pelvic" (his second variety "sous-peritoneo-pelvienne"), that I was led to reconsider the whole question of the pathology of this important subject. Up to that time we had accepted the involved classification of the author I have just quoted, who made out ten different varieties. Growing experience and the consideration of a large number of recorded cases have, however, induced me fully to adopt the view of the origin of all cases of extra-uterine pregnancy which I first laid before the Obstetrical Society of London in 1873. Of this view the late Dr. John S. Parry, in his exhaustive treatise on the question, says: "In opposition to this minute anatomico-pathological classification of Dezeimeris, we have the simple one of Mr. Lawson Tait, who asserts that there are only two forms of misplaced conception. In one the oviduct bursts, the peritoneum

remaining uninjured, after which the ovum escapes into the broad ligament, between the folds of which its development continues. In the other variety the peritoneum is lacerated, as well as the walls of the tube, and the ovum finds its way into the cavity of the abdomen. The first is the subperitoneo-pelvic pregnancy of the French authors, and the latter is the secondary abdominal pregnancy of Boehmer.

"Prof. T. G. Thomas, of New York, has recently promulgated opinions in support of those of Mr. Tait. He writes (*New York Medical Journal*, June, 1875): 'I feel inclined to believe that, in the commencement of its development, the impregnated ovum never attaches itself to or draws its nourishment from any other parts than those lined by the mucous membrane of the uterus or tubes. Knowing, as we do, the delicate and subtile connection which the chorion establishes with the maternal tissues, it is certainly difficult to believe that an impregnated ovum, falling free into the peritoneal cavity, or detained within the Graafian vesicle, can, with parts so unlike the lining of the uterus, establish relations almost identical with those which are normal.' "

These opinions of Prof. Thomas are quite in accord with my own, and it has further always seemed to me that the idea that an ovum could be impregnated in the ovary and then pass, not through the Fallopian tube, but into the peritoneal cavity, and then out through the membrane into the tissue of the broad ligament, was alike improbable and far-fetched. It was much more likely, and the dissection in my case made me certain, that this exceptional form arises merely from the rupture of the tube in an ordinary tubal pregnancy, the wall giving way at the lower part, and allowing the ovum to extrude into the connective tissue between the two layers of the broad ligament. This conviction led me still farther. It made me examine other cases of which I had the preparations, or which I met with in practice subsequently, with great care, and I became convinced that in every instance the pregnancy was tubal originally, and that the acquired relations of the ovum depended entirely on the accidents of the direction and extent of the rupture of its envelopes.

Of course some sub-varieties may be made out of the position of the original attachment of the ovum in the tube, but these can be referred to only in specimens of the displacement in an early stage. In the later stages of the pregnancy all such distinctions must certainly be lost, unless it be that which has been termed *interstitial*.

The varieties which may thus be made are three in number:

(*a*), tubo-ovarian, when the ovum has been fertilized in the infundibulum before the separation has occurred between that structure and the surface of the ovary; (*b*), tubal; and (*c*), interstitial, where the attachment has been formed to that part of the tube lying in the uterine wall.

There can be no doubt that the former variety has been accurately described and fully established, but of the so-called ovarian pregnancy I shall have something to say in the chapter on ovarian tumors.

The interstitial variety is very likely to be far more common than we have hitherto suspected, for there is little doubt that it can and does end by natural labor at the full term. (See John S. Parry's scholarly and complete treatise.)

This distinction of varieties has, however, but little practical importance, save, perhaps, in being associated with a like distribution of the frequency of disastrous rupture of the structures, and death by hemorrhage. One would expect that the tubo-ovarian variety would be most likely to have this occurrence, and that the interstitial variety would be the least likely; but there are no established data upon which to make any statement.

It is at any rate certain that when an impregnated ovum attaches itself to any part of the tube outside the uterus, rupture of some of the structures will take place before the fourth month, probably very much earlier. If the extrusion takes place into the abdominal cavity, the membranes may either remain entire and be developed with the fœtus, or they may rupture, and the fœtus will then float loose in the cavity of the abdomen. Meanwhile the placenta retains its old attachment to the inner surface of the tube, which becomes everted, and it likewise acquires new attachments, as it grows, to the front of the rectum, ovaries, various parts of the peritoneal surface, and even to the small intestines. Wherever it may attach itself, it displays a marvellous power of sending villi into the structures, and inducing an enormous enlargement of the vessels in the neighborhood. These enlarged vessels, as I have seen on injection, appear more like sinuses than ordinary vessels. Their walls are very thin and have no distinct muscular layer, a fact which at once explains the disastrous results which have always followed attempts to remove the placenta in operations for extra-uterine gestation, the hemorrhage being quite uncontrollable. It also explains the profuse hemorrhage which follows a comparatively insignificant rupture of an organ not usually very vascular.

It will be seen, therefore, that I maintain that every case of

extra-uterine pregnancy is tubal in its origin, and that it may become intra-peritoneal or extra-peritoneal, just as the tube happens to burst. The intra-peritoneal termination is beyond all question the more common and the more fatal; while the extra-peritoneal development of the ovum is much rarer, less fatal, and, what is of more consequence, far more amenable to treatment.

The diagnosis of extra-uterine gestation in its early stage is

FATAL CASE OF FALLOPIAN PREGNANCY AT EIGHTH WEEK (AFTER DUGUET).

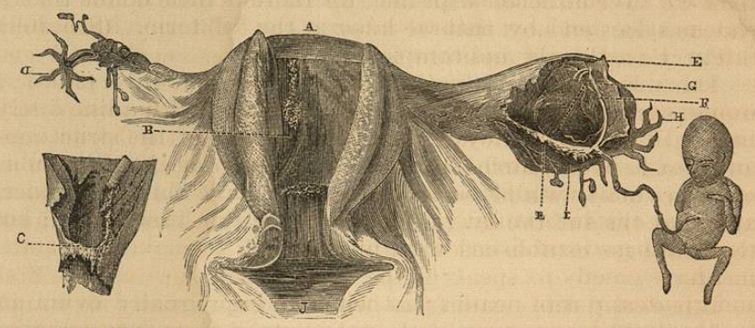

FIG. 22.—*A*, Uterus laid open on the anterior surface; *B*, part of the *decidua* still adherent to the right uterine cornu; *C*, decidua, nearly entire, expelled before death; *D*, right tube and ovary, normal; *E*, *E*, margins of artificial opening in the left tube; *F*, umbilical cord; *G*, placenta; *H*, pavilion of the left tube; *I*, vascular plexus, ramifying over the tubal covering of cyst, from which the hemorrhage occurs on its rupture; *J*, vagina.

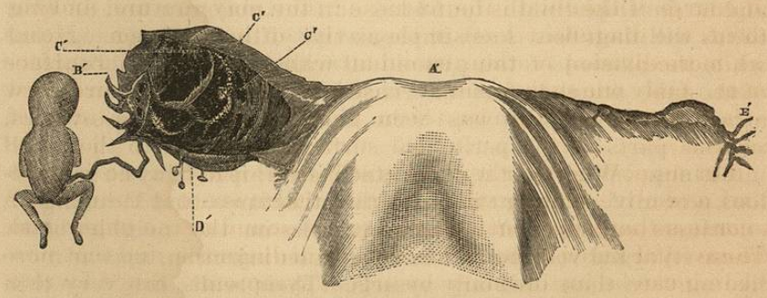

FIG. 23.—*A*, View of the posterior surface of the uterus; *B*, fimbriæ of left tube; *C*, *C*, *C*, rents in tubal covering of cyst, corresponding to site of placenta, from which the fœtus escaped and hemorrhage came; *D*, ovary attached to lower surface of cyst, and increased in size; *E*, right tube.

surrounded with difficulties, and we are seldom called upon to consider it until nearly all hope of successful interference is over. I refer, of course, to the class of cases which we see at the time of the tubal rupture, and which are generally included under the head of intra-peritoneal hæmatocele.

I have very little doubt, however, that many of these cases would be saved by prompt action. The difficulty is, of course, in the diagnosis, some certainty of which is requisite before an abdominal section can be performed. I have twice been on the point of performing abdominal section on account of suspected rupture of a Fallopian tube, and have been prevented by scruples as to the correctness of the diagnosis. In both cases post-mortem abdominal section showed that the suspicion was correct, and I believe both of these patients might have been saved. A hesitation in opening the abdominal cavity was natural enough when we were overburdened with the superstition that it was a very serious step; but now that we know it can be done with perfect safety, I would not hesitate to explore in a case where I suspected a Fallopian rupture. If my suspicion were verified, I would apply a ligature to the rupture after I had completely emptied the sac, or I would completely remove the broad ligament, or perhaps stitch it to the abdominal wound, and drain it, as I have done with pelvic abscesses, dropsy of the gall-bladder, hydrated cysts of the liver and kidney, etc. In this way I think some of these terrible cases might be saved.

I have chiefly to speak of the cases which survive this first and greatest risk of death from hemorrhage. Usually we do not see them until some months after the time of their expected confinement, and after the child has died. In very rare instances our assistance is asked before this period, and in these the utmost care must be exercised before the diagnosis is acted upon. Of course, if the child is found loose in the abdomen and moving about, the diagnosis is as simple as that of a fractured leg, and the mere division of the abdominal walls will end the displacement. Only one such fortunate case is as yet, however, on record —that which recently has been published by Mr. Jessop, of Leeds.

But supposing that the child is still enveloped in a sac of some kind, and alive, how can we determine that it is not in the uterus? I confess that, short of introducing the sound or the finger into the cavity, I know of no means of certain diagnosis, and that proceeding can be justified only by urgent symptoms. Since I wrote originally upon this subject, I have repeatedly been called to cases where, for some reason or other, extra-uterine pregnancy with a living child was suspected, but in not a single instance did the result justify the suspicion, and my invariable advice to wait for symptoms always resulted in our waiting for ordinary labor. In one case in the practice of Mr. Langley Browne, of West Bromwich, we found a very thin uterus extremely retroverted. In the others the conditions were those of extremely

thin walls, with some kind of displacement, as latero-flexion or retroflexion, and in these patience always solved the doubts. If I met with a case where any urgent symptoms existed, I would not hesitate to use the sound or use my dilators if necessary; for the worst that could happen, in the event of mistake, would be a premature labor.

This condition of extreme thinness of the uterine walls, in a pregnancy perfectly normal in every other respect, is a point which has not yet received any notice, so far as I know. It is, however, of sufficiently common occurrence to be a source of difficulty and danger, and therefore I propose to say here what I have noticed about it, in the hope that it may draw the attention of some one engaged in obstetric practice who may be able to investigate it more fully. I can now recall six cases in which I have been consulted concerning a supposed extra-uterine pregnancy, yet in which there was only an extreme thinness of the uterine walls. I have no record of three of the cases, but of the others I have more accurate data than mere recollection. The features of all, however, had much in common, and the known histories of three quite establish this. The ordinary symptoms of pregnancy were present in all of them, and in only one was there any doubt as to its existence. The question generally was, Is the child in the abdominal cavity? and sometimes I had great difficulty in persuading the gentlemen who brought the patients to me that the position of the child was normal. Save in one case—that seen by me with Dr. Whitwell, at Shrewsbury—there was a marked absence of the liquor amnii, so that the movements of the child could be seen and felt in a most striking manner. In the pelvis the finger comes upon the presenting part of the fœtus, as if it lay immediately under the mucous membrane; and it was only on very careful investigation that the attenuated cervix uteri could be made out, spread over the body of the child.

These cases were all under the seventh month. In the eighth and ninth months the walls of the uterus thickened, the quantity of liquor amnii increased, and the cases terminated in perfectly natural labors.

These facts were given to me in connection with Mr. Langley Browne's case, also with a case which was watched by Dr. Hill Norris, and attended by him in her confinement. In Dr. Whitwell's case, which I saw with him last August, there was a large, thin-walled cyst, through which the child could be felt with the most astonishing distinctness, and it floated about as if it were perfectly free in the abdomen. He writes to me that "the patient went on very well, that some time before the expiry of

gestation the fœtus became much more a fixed body, which undoubtedly showed an increased thickening of the walls of the uterus, as well as enlargement of the fœtus, and that her labor was quick and without any subsequent hemorrhage."

The other conditions with which extra-uterine pregnancy may be confused, before the death of the child, are (*a*) displacement of the normally pregnant uterus during the early months of pregnancy, complicated with fibro-myoma or cystic disease of the uterus; and, more rarely, (*b*) pregnancy of one-half of a double uterus. In a case which I saw with the late Mr. Ross, of Wakefield, I diagnosed either extra-uterine gestation or a double uterus with pregnancy of one side, and it turned out to be the latter. Frequently we have considerable lateral displacements of the normally pregnant uterus, especially in unmarried women, sent to the specialist as something very different from what they really are.

But it is in cases seen after the death of the child, or at least when the time of the expected confinement has passed so long that if there is a child it is sure to be dead, that our most serious difficulties in diagnosis are met with.

The first point to consider is the history given by the patient of her supposed pregnancy, and the events which occurred at and after the time of her expected delivery. It is somewhat remarkable, and I think it is in favor of the views of the pathology of tubal pregnancy which I have advanced, that the majority of the instances of this abnormality occur in women who have not borne children previously, or in those who have had no children for many years. This point in the history of the patient is therefore always noteworthy. The other matters requiring careful consideration are the sudden arrest of the menses, the gradual increase in size, the occurrence of symptoms of labor at or about the end of the ninth month, *and the subsequent diminution in size.* Of all those points, the last is the only one having the importance of a sign; but it must always be borne in mind that no history, however complete, is of sufficient weight to establish a diagnosis unless there be some distinct physical signs in support of it. This I lay down as a rule based upon a remarkable experience, which I published in detail in the "Transactions of the Obstetrical Society of London" for 1874. In this case I had diagnosed double ovarian tumor, but was completely misled by a subsequent history which the patient volunteered. This was to the effect that just three years before she had believed herself pregnant, because her menstruation had ceased for eight months, her abdomen had slowly enlarged, and so had also her breasts. She was also quite sure that she had

often felt movements, and, indeed, had all the feelings that she had experienced in each of her seven pregnancies. One day, when walking in the street, she was seized with pains, exactly like labor-pains, and these lasted for four hours. At these pains she felt no surprise, fully believing that she was in labor. She felt as if a child was about to pass from her, and was aware of the "swelling pressing downward." She afterward felt this "pass back into the belly," the pains ceased, and her size remained unaltered. At this false labor there was no discharge. Up to the time when I first saw her she is quite certain no diminution of her size had ever occurred, and that there had been very little increase, if any.

The physical signs of the case were those of multilocular disease of both ovaries, and on them I need not dwell. I found it was so when I operated, and the operation was successful. The lesson of the case is that we should place very little confidence in the statements of patients, if they are not in harmony with physical signs. I must plead in extenuation, that I never saw a woman farther removed from any taint of hysteria, and, being an illiterate woman, there could have been no cramming up of symptoms from books. The strongest point in her story was the arrest of menstruation for eight months, and I had corroboration of her statement.

The weak points in the story were those I did not attach sufficient weight to, and they were those alone on which we ought to place any reliance whatever. They are, that she had no "show" during the false labor, and that her size did not diminish after it. Having now almost exhausted, I believe, the literature of the subject, I am satisfied that these two circumstances are invariable in extra-uterine gestation which has gone past the period. The first is due to the general excitement and congestion of the organs involved, specially to the enlargement of the uterus, which is always present to some extent; and the second, to the absorption of the liquor amnii after the death of the child. The complete arrest of menstruation during the period corresponding to normal pregnancy is far from being a constant condition. But even though it were, like its accompanying signs, such as enlargement of the breasts, darkening of the areolæ, increase of Montgomery's tubercles, malaise, vomiting, etc., it would help us to do little more than suspect a pregnancy. Sometimes there is metrorrhagia, due to the large size and empty condition of the uterus, a symptom which would incline us to the diagnosis of uterine myoma. After the death of the child, auscultatory signs cannot, of course, be made available; though in one of my cases, where the child was clearly dead, the placental sound was heard at my first visit, but had disappeared entirely at my second, ten hours afterward—a set of signs which tended to confirm my diagnosis.

The invariable condition of the uterus in extra-uterine pregnancy, whether before or after the death of the child, is that it is intimately associated with the tumor, generally in front of it, movable to a limited extent, always enlarged before the death of the child, and remaining so afterward if the placenta be attached, as it generally is, to the posterior surface of the fundus. The most important point is that the cervix is always quite open—in my cases almost admitting the finger. Under such circumstances, if a fetal heart is audible, the case is clear. If not, then the character of the tumor must be taken carefully into account. If the case is seen soon after the death of the child, the tumor will be soft, more or less obscure ballottement will be felt in it, and possibly a part of the child may be made out by rectal, vaginal, or supra-pelvic examination. It is at this stage that the difficulty between extra-uterine gestation and hæmatocele will occur. Hæmatoceles are not all formed quite suddenly. I have seen several cases where a monthly addition was made to the effused blood. In one such case, during the formation of a large hæmatocele, menstruation was entirely suspended, or rather its external indications were. The tumor subsequently suppurated and discharged through the rectum, and for a while it really was a grave question to decide whether it was a suppurating hæmatocele or the suppurating cyst of an extra-uterine pregnancy. I made an exploratory incision into it from the vagina, and satisfied myself that the former alternative was the correct one, and it is now in process of cure. Periodically increasing retro-uterine hæmatocele may easily be mistaken for extra-uterine pregnancy in the later stages, and *vice versâ*.

After the absorption of the liquor amnii, the character of the tumor in extra-uterine pregnancy alters very much. The uterus may become smaller and more mobile, and parts of the child may be felt, especially in the rectum, such a sign at once pointing out the nature of the case. This will be particularly evident in the instances of the extra-peritoneal variety. These prominences, and likewise the "bosselures," or knobs of the hands and feet, which are often felt above the pelvis, may be closely imitated by the small nut-like cysts of small ovarian tumors, and especially by the hard irregularities of dermoid cysts. These resemblances existed in the case I have narrated above to a considerable extent, but to a very much more marked degree in another patient, where I removed both ovaries—one dermoid—but where the resemblances, fortunately, did not lead me astray.

If the cyst be packed down in the pelvis, the deception may be great, and nothing but an exploratory incision will clear up the case. I would strongly recommend that, in such cases, the aspirator should not be used. In a joint, or in the pleura, where the conditions between which diagnosis has to be made are limited in number, this instrument is doubtless of great use, as it is for treatment as well. But in the abdomen and pelvis it is very different. The aspirator may tell you a tumor contains serum, blood, or pus, but that helps you but little as to the seat of the disease, and nothing at all as to its treatment. Besides, the risk of the aspirator is great, quite as great as the risk of an abdominal section. My use of the aspirator in my special line of practice is therefore diminishing, and in all cases of abdominal tumor, where there seems a reasonable prospect of doing good to the patient, I open the abdomen and make out the condition. I have never had to regret this practice, and I very often have had reason to be pleased with its results.

Slow-growing cancer of an ovary, or in the neighborhood of the uterus, especially behind it, might be difficult to diagnose by physical signs from extra-uterine pregnancy of long standing, but the history would here greatly help us. The increase would probably be steady, and if a rapid accession to the growth took place, a temperature chart would settle the difficulty; for the only condition which could induce rapid increase of the cyst of an extra-uterine pregnancy is suppuration, and this would tell its story on the chart in lines that could not be mistaken. Anything else might safely be set down as cancer. Fibro-cystic disease of the uterus could be determined as a tumor of the uterus. Phantom pregnancy can always be dispelled by an anæsthetic.

After the diagnosis of a case of extra-uterine pregnancy has been satisfactorily determined, the question arises, What is to be done with it? If the child is still alive and near the full term, I believe it to be our duty to operate. If the child is dead, the propriety of operating seems to me quite evident, though it has been disputed by so eminent an authority as Mr. Jonathan Hutchinson. Of course no strict rule can be laid down, and each case must be decided on its own merits; but the records of surgery are so full of instances of the risks which such cases have to run when suppuration of the sac occurs, as it almost always does some time or other, that I think we are in most instances justified in operating. Moreover, the surgical principles on which the operation is to be conducted are now so well established, and its results are so good, that the opponents of the operation seem to me to be in a very illogical position if they still continue to

advocate certain other surgical proceedings, of which the results are notoriously bad. Whether the child be dead or not, the steps of the operation do not vary, and the only condition which would modify my procedure would be a certainty that the fœtus had been developed outside the peritoneum, in the layers of the broad ligament. There can, however, be no certainty of this until after an exploratory incision in the median line of the anterior abdominal wall has been made, so that we may say that, in every case, abdominal section is the first step; and here the same strict precautions must be observed as in ovariotomy.

After the peritoneum has been opened, a careful inspection of the relations of the ovum must be made, for the further steps of the operation will differ materially according to the nature of these relations. If the child is loose in the abdomen, it merely requires careful removal, careful avoidance of the placenta, and the closure of the wound in the abdomen save at the lower part, through which the umbilical cord must be drawn, and which must be kept open for the passage of the placental *débris* after it has separated, through a wide glass drainage-tube inserted for the purpose. The discharge must be drawn up by means of a syringe, three or four times in the twenty-four hours, and the cavity occasionally washed out with a five or ten per cent. solution of sulphuret of potassium, or some other harmless disinfectant.

If the fœtus is found in a sac which is not covered by peritoneum, that is, which is not formed by the folds of the broad ligament, the sac must be carefully opened in the middle line, emptied and cleaned out as well as possible, and then its edges must be stitched round to the edges of the wound in the abdominal wall, so as to close the peritoneal cavity as well as possible. The lower part of the wound, communicating with the sac only, must as before be left open, and through it the cord must be brought and the placental *débris* must pass. I have had six successful cases of this kind, most of which are recorded in detail in the "Transactions of the Royal Medico-Chirurgical Society." If, however, the sac be found to be covered by peritoneum, that is, if the case is one of the extra-peritoneal variety, I believe that a different method might be followed if possible. In such a case the peritoneum will be found lifted up from its usual relations, so that it runs on to the walls at a much higher level than is usual. In this way an exit for the fœtus by way of the vagina is possible, subject to certain conditions, which are that the placenta is not to be cut through, and that the passages must be large enough to allow the child to pass. In a case which I operated on by removing the fœtus through an incision from the

vagina, behind the uterus, everything was favorable; but, unfortunately, in ignorance I removed the placenta, and the result was fatal. If these conditions are not possible, then the fœtus must be removed from above, and the sac must be treated as already described. I am bound, however, to say that I am not in any way in favor of vaginal section. I have never resorted to it but once, in the case before alluded to, and my growing experience makes me think that abdominal section is in every case preferable. The golden rule for this operation is to avoid touching the placenta.

CHAPTER III.

OÖPHORITIS AND PERI-OÖPHORITIS—CIRRHOSIS OF THE OVARY—ABSCESS OF THE OVARY.

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THE accession of puberty alters the nutrition of the ovary to the extent that, at the monthly periods, it shares in the general state of hyperæmia and excitement then common to all the sexual organs, and the whole economy seems to participate in the disturbance. Normally, this change takes place in the fourteenth or fifteenth year of life in this country; at an earlier date in hot climates. In strong, healthy girls, especially those engaged in active out-door work—still more those living a life approaching to the primitive state—the moliminal change is effected without suffering; but in girls brought up in refinement, of delicate habit and strumous parentage, there is much trouble. As a rule, this seems to be due to the onset of menstruation, and the