since been proved experimentally on animals, as well as the fact of the passage of the ovum through the uterus into the opposite tube.

There are points of interest in the changes which the fœtus undergoes in the abdominal cavity that may be in place to mention here. One of these is the so-called lithopædion or stony fœtus. This is one that has been carried a long time and still preserves its external features, like a mummy, while all its tissues are infiltrated with lime. The specimen from the Warren Museum here shown was carried twenty-nine years. The longest recorded case is somewhat over fifty years.

In other cases the fœtus is quite quickly destroyed after death, and only the macerated bones are found. These are often voided spontaneously with the external opening of an abscess, as in the earliest recorded case, already mentioned.

How these two distinct processes could be brought about was shown by the experiments of Leopold, who introduced the embryos of one rabbit into the abdominal cavity of another; and he concludes that, in order for the fœtus to be mummified, it must be enclosed in a sac of proper membranes, and excite very little inflammation. If this is not the case, the soft parts are quickly destroyed and a skeleton is the result.

There remains only to call attention to the changes which take place in the uterus itself. It is usually stated that it is somewhat enlarged and a decidua is formed within it. Some of these specimens which are shown from the museum agree with this, especially the cases of interstitial pregnancy. But others give little evidence in the uterus of the pregnancy which you see has taken place in the tube.

There remains only one other condition to mention, and that is where the fœtus is found within the uterine walls. How it gets there is not as yet fully understood; but it is supposed to be in some way connected with a development of the ovum in Gärtner's canal, which has a connection with the Fallopian tube.

In closing, it may be said that the cases of extra-peritoneal pregnancy are those where the fœtus has been first formed in the tube or abdomen and through rupture has found its way into the layers of the broad ligament or beneath the peritoneum.

EXTRA-UTERINE PREGNANCY.¹

BY EDWARD REYNOLDS, M.D.

At the first meeting of the Committee appointed by this Society to report upon the present condition of medical opinion with regard to the subject of extra-uterine pregnancy, it was decided that the subject should be sub-divided among ourselves in such a way that I should have the honor of presenting to you a review of the recent literature of the subject, and of the opinions of those who have made themselves best known in connection with the questions of its pathology, the classification of its varieties, the possibilities of an early diagnosis, and the therapeutic responsibilities which that must entail.

To the great gratification of the Committee, Dr. Wm. F. Whitney has, however, been kind enough to agree to open this discussion by the exhibition of pathological specimens, and a review of the pathological points which his large experience has led him to think important.

¹ Read before the Boston Obstetrical Society, November 12, 1892.

I feel that I must preface my own share of this work by reminding you that the subject has so recently come into prominence that many of the most important points are still under discussion; and by stating that in the midst of the uncertainties which still beset it, it is impossible to do anything more with many of the questions involved than to present them in a shape for discussion, to quote the dicta of different authorities, and finally to postulate briefly the few points which seem to have become permanently settled.

The still unsettled state of opinion with regard to the frequency of extra-uterine gestation makes its difficult to reach any satisfactory conclusion upon this point; and the difference of opinion which obtains has been the cause of considerable and, unfortunately, somewhat acrimonious discussion. I believe that this alleged difference in frequency is due partly to a more extended interest in the early diagnosis of the affection in some localities than in others, and partly to a more active habit of reporting all cases in the first-named class of cities. There is probably no city in this country, and perhaps none in the world, in which so many instances have been reported in proportion to the population, as in Philadelphia; few, if any, cities of the first class (in a medical sense) in which so few cases have been reported, as in Boston. But I believe that we shall find this evening that the difference between the number of cases which have been observed here, and those which have been seen in Philadelphia even, is no more than would be explained by the smaller size of our city, when taken in connection with the fact that those men here who have had opportunities for observing such cases have not usually reported them, and that the interest of the general profession in the early diagnosis is therefore but partially awakened. If this explanation be true, it is certainly to be hoped that this discussion to-night may result in the detection and cure of a large number of future cases, which otherwise would have passed on to incurable disease or death.

Dr. H. F. Formad, the coroner's physician of Philadelphia, had seen upon the post-mortem table in 1890, more than thirty cases in which death was due to an undiagnosed ectopic pregnancy, all collected within the three or four preceding years; and there may have been, and no doubt were, in previous years, equally large numbers which failed of recognition in Philadelphia.

If the gynecologists of this vicinity are ready to admit that they, in common with other practitioners, must in the past have seen many cases of unrecognized tubal pregnancy, is it not likely that the pathologists must be prepared to make the same admission? I think we shall find our operators are prepared to state that they are constantly seeing a larger proportion of such cases, and I hope that our pathologists will be able to make the same report.

But the undiagnosed cases which are revealed by a post-mortem examination, form, in all probability, but a comparatively small proportion of all unrecognized instances of this affection. It is probable that there is a large percentage in which the patient survives the first and most imminent dangers of the disease, only to pass on into invalidism from chronic pelvic trouble, and finally dies, or is cured by the removal of diseased appendages, at a time when her pelvic organs have passed into a stage of inflammatory trouble (or even of chronic or acute pelvic abscess,) in which even a

pathologist must necessarily fail to detect any traces of tubal trouble.

In making this statement, I am well aware that I trench upon one of the uncertainties of which I spoke in my opening sentences; and I am prepared to find a strong and active difference of opinion upon the subject. I must therefore beg leave to quote the statements of more experienced men which have led me to make it.

Dr. Johnstone, of Cincinnati, in arguing this question, says of such a patient: "She is subject to all the recurrent evils of pelvic disease, and the only way to cure her is to clean them all out, the same as with any other pelvic inflammation, and before her powers are exhausted"; and reports three cases, in which he thinks that one death and two cases of serious prolonged disease were due to conservatively treated extra-uterine pregnancies. Again, he says, in speaking of the destruction of the fœtus by electricity: "Furthermore, when we have diagnosed it correctly, and with safety to the mother destroyed both fœtus and placenta, we have done little more for the future of the mother than if we had found her with a broad ligament cyst, and done nothing more than tap it. We have not only left her to the dangers of suppuration of the present pregnancy, but to the risks of a repetition of the evil in the future."

Dr. Baldy, of Philadelphia, reports a number of cases of his own and others, in which subsequent trouble had followed an arrested extra-uterine fœtation, and says: "The claim that after the death of the fœtus, the trouble is past, would seem to be disproved by these cases, amounting to about eight per cent. of the whole number of women treated (cases collected), and supposed to be cases of ectopic gestation."

Thompson records a case where death of the fœtus occurred between the second and fourth months. Later, the fœtal bones were passed by the bladder.

Goelet records a case suffering from supposed pelvic hæmatocele; a vaginal incision was made upon the side of the uterus, and a fœtus of about the third month, in a state of decomposition, was removed.

Tuttle records three similar cases; Hanks, four; and the literature of the subject teems with similar instances.

In addition to these reports of cases of arrested ectopic pregnancy which are becoming frequent in literature, it seems difficult to believe, *a priori*, that such masses as we have all seen removed from the abdominal cavity in cases where operation has been undertaken before rupture, can be so completely absorbed as to leave the tube in anything but a dangerous condition. And when we remember that the diseased tubes—in which only such pregnancies occur—so constantly retain a latent power of infection for a prolonged period of years, it seems highly probable that the contact of their secretions with the hæmatocele produced by an intra-ligamentous rupture of that portion of the tube which is the seat of tubal pregnancy, must in a large proportion of cases result in the formation of a chronic pelvic abscess, even in cases in which the bones of the fœtus are still capable of absorption.

It is, perhaps, as yet too soon to even estimate the frequency or infrequency of this condition; but it is certain that there is a growing disposition to assign a constantly increasing importance in the etiology of chronic pelvic disease to unrecognized and arrested tubal pregnancy.

A question of even more practical interest than the natural history of untreated cases is the possibility of obtaining an assured diagnosis of the condition. This subject can only be treated by dividing all cases into classes, in accordance with the stage to which they have advanced; that is, we must consider separately the diagnosis before rupture, immediately after rupture, and in those cases in which the accident is not recognized until long after rupture has occurred. With this last class belong the alleged instances of primary abdominal pregnancy.

Diagnosis before rupture. It is probable that it is the rarest of all things for the physician to see a case of ectopic gestation before any rupture has occurred. That is, the symptom which leads the patient to consult her physician is in almost all cases the pain which accompanies or immediately precedes the giving way of the walls of the tube. It must be added, however, that there is a large class of cases in which the initial rupture is incomplete, and the resulting hæmorrhage is confined within a gestation sac; and it is probable that this class of cases form the bulk of those that are spoken of as having been recognized before rupture. Some such cases may often escape recognition, from the fact that the hæmorrhage, if it occurs sufficiently early, may possibly destroy the vitality of the ovum, and permit its absorption. But we have seen that there is reason to suspect that even when this result occurs it is not necessarily the most fortunate for the patient. A diagnosis which is made at this time may certainly, from a clinical standpoint, be classified as a diagnosis before rupture.

In another class of cases, the pathological state is not even suspected until after the complete rupture of the walls of the tube. This may occur in the initial attack of pain, or after several unrecognized attacks. It may then be so situated that the resulting hæmorrhage is confined between the layers of the broad ligament, or may result in a free escape of blood into the peritoneal cavity.

In the first case, the hæmorrhage may be so small that the case is classified clinically with those diagnosed before rupture, and is only distinguished as an incomplete rupture after its removal and by the pathologist. It may be so large as to cause collapse, and the formation of an hæmatocele of extreme size.

When the rupture is intra-peritoneal, it may lacerate vessels of such size as to cause promptly fatal hæmorrhage; or may so far avoid the larger vessels as to cause no more hæmorrhage than is capable of spontaneous arrest, and thus lead to the formation of a secondary abdominal pregnancy.

The question immediately before us now is the possibility of obtaining a diagnosis in each of these events.

Diagnosis before rupture. Before any rupture has occurred, a diagnosis is very rare, because the only patients who are likely to be seen in this stage are the very few who happen to become the victims of extra-uterine pregnancy at a period when they are under treatment for some pelvic trouble. The establishment of such a diagnosis rests upon the presence of a rapidly enlarging hypersensitive tubal swelling, in connection with the rational signs of early pregnancy.

After an incomplete rupture has occurred, the appearance of the characteristic paroxysmal colicky abdominal pains usually results in a visit to the physician, and then the question of the possibility of a diagnosis assumes a more practical aspect.

Before entering upon the question of this possibility it may be well to again enumerate the signs upon which if made, it must rest. As a rule, the ordinary signs of pregnancy are present, namely, mammary changes, nausea, vaginal discoloration, and disturbances of the rectal and vesical function; but, if we remember the estimate which is usually placed upon their value during the first three months of normal pregnancy, we shall feel that their absence is not conclusive evidence here.

An ectopic pregnancy has frequently been preceded by a period of sterility, following the birth of a child, or more often a miscarriage; but many exceptions to this rule are noted. Menstruation is apt to be profuse and irregular; and in some cases an undue frequency follows an absence of one or two periods. It may, however, be wholly regular, or entirely absent. The patient may or may not consider herself pregnant. On vaginal examination, the cervix is usually found somewhat softened, and the uterus somewhat enlarged, while in the appendages on one side or the other a tense and painful tumor is found.

Ballottement can rarely be obtained. If fragments of decidua have been found in the menstrual blood, and pronounced such by a microscopist, they would go far towards establishing a diagnosis; but this has rarely been accomplished.

At first sight, it would seem that so extensive a collection of symptoms as this would afford conclusive evidence of the existence of ectopic pregnancy. When it is remembered how difficult is the diagnosis of early normal pregnancy, how misleading are its signs and symptoms, how frequently any new growth or inflammatory condition in the broad ligament is attended by sharp pain and marked heaviness, and that there is no one symptom which is absolutely characteristic of extra-uterine pregnancy, it becomes evident that the problem is a complicated one.

This is further proved by an appeal to experience, and to the reported cases. Upon the one hand, we find a set of men of unquestioned authority who declare themselves able to diagnose the presence or absence of early ectopic gestation with fair certainty in the great majority of cases. Opposed to them are a perhaps larger number of men, whose opinion should have equal weight, who claim that such a diagnosis is impossible.

Arthur W. Johnston says, in referring to pain as the most prominent of the early symptoms: "I know that nearly every one of those colicky pains means a giving way of some part of the tube. With these pains once begun, the patient comes to see her doctor, and then almost anybody can suspect the condition; but no one can be certain until the abdomen is opened."

Baldy states his position in three propositions: "(1) In a certain proportion of cases of extra-uterine pregnancy in the early stages, the diagnosis is easy and unmistakable. (2) In a certain (quite large) proportion of cases, sufficient symptoms are present more than to warrant a diagnosis of extra-uterine pregnancy, such a pregnancy not being present. (3) In a certain other proportion of cases, the symptoms, until rupture has occurred, are entirely wanting, or of such dubious character as in no wise to warrant such a diagnosis." He quotes cases seen by Joseph Price, Penrose, Hirst, Coe, Johnstone, and himself, in support of his position. Gill Wylic and Vanderveer report similar cases. Thomas, with all his well-known diagnostic ability, puts

himself on record upon the side of those who believe in the frequency of such mistakes in the hands of the best men. Mann says: "Tubal pregnancy has been, and therefore can be, correctly diagnosed before rupture; but this does not alter the fact that in a considerable proportion of cases, rupture takes place before the existence of pregnancy is even suspected, and that the early diagnosis before signs of tubal rupture is rare."

Kelly says: "There is yet a class of cases where we get some of the symptoms, but there remains a doubt, big or little, according as more or less of the major signs are present. Then there are other cases in which none of the symptoms are present, but the disease is found out by an accidental examination, or a sudden death." He is, however, inclined to believe that the diagnosis can usually be made.

Upon the other hand, Skene says: "Complications render diagnosis more difficult, it is true; but in an uncomplicated case of ectopic gestation, I hold that, with due care in noting the history of the case and its peculiar characteristics and the physical signs, the diagnosis can be made as positively as anything else — as pyosalpinx or ovarian cyst, for example. There may be a shadow of doubt in the minds of the best diagnosticians; but is not that so in any diagnosis?"

Wilson says, in the same discussion: "I agree with every word he (Dr. Skene) uttered, and his views are exactly my views on this subject."

Jaggard says: "The diagnosis of uncomplicated extra-uterine pregnancy is easy." And many more authorities could be quoted upon one or the other side.

I believe that the key to so extraordinary a disagreement among men equally familiar with the subject, is to be found, as is so frequently the case in such disagreements, in the fact that they are using the same words with somewhat different meanings. In studying out their various papers at length, it has seemed to me that without exception, all agree that the establishment of a diagnosis, in the sense of an ability to say, "This is ectopic pregnancy, and any new growth of the ovary, or a hydro- or pyo-salpinx, can be positively excluded," is seldom easy, and frequently impossible. But that, upon the other hand, all are equally agreed that the establishment of a diagnosis, in the sense of saying, "This is probably ectopic pregnancy, and at all events is an acute enlargement in one of the uterine appendages; it is rapidly growing larger, and therefore needs immediate treatment, and this the more certainly, since it may be an ectopic pregnancy in danger of rupture," is invariably possible, whenever the symptoms have brought the case under observation sufficiently early. Such is, at all events, the result of my own experience and that of the other members of your Committee.

Diagnosis immediately after rupture, with or without the formation of an hæmatocele. — When a physician of to-day is called to a case in which the classical symptoms of concealed hæmorrhage have followed an attack of abdominal pain in a woman who may have been exposed to impregnation, the suspicion of a ruptured tubal pregnancy should be the first thing which occurs to his mind: and he should either act himself without a moment's loss of time, or with equal speed find some one else who is capable of either excluding extra-uterine pregnancy, or of taking the responsibility of its treatment.

When the condition of collapse following paroxysmal pain is accompanied by a history of the presence of the rational and physical signs of ectopic gestation

and an abdominal examination reveals a well-developed hæmatocele, there can be no question that the diagnosis is for practical purposes established; since even if it is, as Dr. Whitney has told us, possible that such a case may be in reality a chronic salpingitis, with hæmorrhage into the interior of the tube, the practical requirements of the case remain the same, and the differential diagnosis can only be made by the microscope.

When in the same condition even so much as a moderate enlargement of one tube, and an ill-defined bogginess in Douglas's fossa is found, the diagnosis is sufficiently well established to warrant interference.

When the history is suggestive, and the patient presents the appearance of concealed hæmorrhage of serious extent, the probabilities are so much in favor of an intra-peritoneal rupture of an extra-uterine pregnancy, that the patient should not be allowed to die without an exploratory incision, unless some other adequate explanation of her condition can be found.

The diagnosis of a pregnancy which has outlasted a rupture and become abdominal is not ordinarily an urgent matter, and is made by the recognition of fœtal parts on bimanual palpation.

Treatment.—In the period before rupture has occurred, the progress of medical science had three years ago discarded all other methods and restricted the question to the choice between electricity and cœliotomy. To-day, a few authorities of eminence recommend electricity as still to be considered in cases in which the diagnosis is unusually clear, when the presence of pus in the pelvis can be absolutely excluded, and when the case has certainly not advanced beyond the twelfth week. The great majority even of those who advocated its use in former years are, however, to-day agreed in pronouncing that it is more dangerous than cœliotomy, in view of the difficulty of eliminating mistakes in diagnosis; that it is less efficient; and that at the best it can do no more than avert the immediate dangers of the condition: to leave the woman still exposed to a risk of pelvic abscess, chronic tubal disease, and repetitions of the ectopic pregnancy.

Immediate cœliotomy, so soon as the diagnosis is established, is then, in the judgment of your Committee, the only treatment which should be considered before rupture of the tube.

After rupture, the treatment must depend upon the situation of the tear, and of the subsequent hæmorrhage. If the rupture has been intra-peritoneal, so large a proportion of cases bleed to death in the first hæmorrhage that there can be little doubt of the wisdom of an immediate emergency operation and the control of hæmorrhage without the loss of a moment's time, by compressing the vessels of the broad ligament at the cornu of the uterus so soon as the abdomen is opened.

When the rupture is intra-ligamentous and the hæmorrhage is confined between the layers of the broad ligament, much must be left to the judgment of the surgeon in the individual case. Few women actually bleed to death under these conditions; but if the tumor is, at the time when the diagnosis is made, so small that it can be readily removed, and is increasing in size, an immediate operation is probably less dangerous than the risks of further hæmorrhage, in combination with those of suppuration of the tumor, or of a subsequent cœliotomy. A hurried operation, with the patient in collapse, and the relations of the organs obscured, owing to the distention of the broad ligament with a large amount of blood, may be so extremely

difficult as to confuse the most expert, and it may even be advantageous to defer its performance until the recovery of the patient from the primary collapse.

If this course is chosen, the time for the subsequent interference should depend upon the progress of the case, and the rapidity with which the patient rallies. Some operators will prefer to remove the diseased appendages, with the effused blood, while it is still fresh and before there is any chance of its decomposition. The apparently more conservative course of awaiting the resorption of the hæmatocele, and a secondary cœliotomy for the removal of the offending tube, if its subsequent condition renders this necessary, will commend itself to many men.

To recapitulate, your committee believes:

(1) That the present status of medical opinion on this subject is that ectopic pregnancies are almost always, if not invariably, tubal in their origin.

(2) That the diagnosis before rupture is dependent upon the existence of a greater or less number of the following symptoms and signs: Exposure of the patient to impregnation; a period of sterility, preceded by previous child-birth or miscarriage; the omission of one or more menstrual periods, followed by irregular over-frequent and usually profuse menstruation; the discharge of decidua membrane, which when present is pathognomonic, but is seldom found; the existence of intermittent, irregular, colicky pain in the abdomen; the usual rational signs of early pregnancy in the breasts and elsewhere; slight enlargement and softening of the uterus as a whole, and the presence of a tense and sensitive tumor upon one side or behind the uterus.

(3) That a diagnosis of this condition after rupture is to be based upon the existence of so much of the foregoing history as can be obtained, in connection with one or more attacks of severe paroxysmal, colicky pains, succeeded by sharp collapse, and the symptoms of concealed hæmorrhage.

(4) That a diagnosis before any rupture is rare, and that the establishment of a diagnosis before incomplete rupture occurs is beset with so many difficulties that an exact statement of the pelvic conditions, such as would be made by a pathologist upon a post-mortem examination, is usually impossible, without opening the abdomen. On the other hand, that the diagnosis of a condition which is so probably extra-uterine pregnancy, and so certainly dangerous to the patient, as to demand at least an exploratory incision, can readily be made.

(5) That the diagnosis after rupture is usually easy, and that this condition is so serious that a mere suspicion of it should be sufficient reason for grave anxiety.

(6) That before rupture, cœliotomy is always the best treatment; electricity being less efficient and more dangerous, and ultimately less curative.

(7) That after rupture, immediate cœliotomy is indicated, except where the hæmorrhage is confined within the broad ligament, and the patient is already so far collapsed that a primary operation may result fatally. When the hæmorrhage is confined within the broad ligament, is still so small that the patient is in good condition, and is increasing, an immediate operation is to be recommended.

Finally, that the apparent infrequency of this accident in Massachusetts, as compared with other localities, is probably due to the failure of those who have

seen cases to give them adequate publicity, and the consequent apathy of the general profession of this vicinity, under whose care the great majority of such cases must primarily come.

THE DIAGNOSIS OF EXTRA-UTERINE PREGNANCY.

BY GEORGE HAVEN, M.D.

THE differential diagnosis of any intra-pelvic or abdominal tumor is so uncertain and so disappointing, even when undertaken by men of large experience in abdominal work, that the statements made by certain men, notably Hanks and Kelly, regarding the ease of diagnosing cases of extra-uterine pregnancy is simply astounding. Hanks states that a diagnosis can be made in from ninety to ninety-five per cent. of all cases; and Kelly thinks that by following certain rules, a diagnosis can be made without great difficulty.

On the other hand, Dr. Joseph Price, Dr. H. C. Coe, Dr. A. W. Johnson, Dr. Tuttle, Dr. Thomas and Dr. Gill Wylie, consider the diagnosis during the early months of extreme difficulty.

The subject of diagnosis can best be considered by dividing the cases into three groups: first, cases where one is called upon to make a diagnosis during the first four months of pregnancy; second, cases from the fourth month to term; and, third, cases where rupture occurs.

The symptoms which suggest ectopic gestation can be given under fifteen headings:

- (1) The absence of menstruation, or a flow coming on at irregular intervals, and of uncertain duration.
- (2) Pain of a severe and spasmodic character, which may be permanent at first, than absent for some weeks, to return later with renewed vigor.
- (3) Vaginal discoloration — a symptom of some importance, yet often noticed in cases where some other form of pelvic tumor is present.
- (4) General signs of pregnancy, such as nausea, enlarged and tender breasts, increase in size of the papillæ, darkened aureolæ, milk in the breasts, ballottement, the presence of a tumor, irregular menstruation, and possibly gait.
- (5) The history of having had a child or miscarriage. This is important, as cases occurring in nuliparous women are rare.
- (6) Expulsion of decidua. This symptom is of great importance, although in the majority of cases we are not fortunate enough to have it present; or, if present, the clot and shreds of tissue are thrown away before a microscopic examination can be made.
- (7) Increase in size of the uterus, with the fundus either pushed forward or to the right or left side.
- (8) Elongated, soft and patulous cervix.
- (9) The appendages on one side containing a thin walled and tender cyst. The fact, however, that a tumor is felt upon both sides should have no bearing upon the diagnosis, as one of the tumors may be due to extra-uterine pregnancy, and the other to some other form of tubal, ovarian or pelvic trouble.
- (10) Pulsation of vessels in neighborhood of cyst.
- (11) The rapid increase in the size of the tumor.
- (12) Presence of foetal heart sounds.
- (13) Presence of placental bruit.
- (14) Feeling the small parts of the child, either

through the vagina or rectum, or by combined manipulation.

In the first group, namely, cases presenting themselves between the first and fourth months of pregnancy, all the symptoms enumerated may be present save those given under headings 12, 13 and 14.

Group 2 may present all the symptoms enumerated, and cases presenting themselves after the fourth month are much easier to diagnose, from the fact that symptoms 12, 13 and 14 may be present. In other words, that we may hear foetal heart sounds, that we may get the placental bruit, and that it is possible to feel the small parts of the child through the vagina or rectum.

Rupture may occur in two ways: first, into the folds of the broad ligament, or, second, into the abdominal cavity.

If in the folds of the broad ligament, there will be a sudden onset of pain, with symptoms of more or less profound shock, and a distinct increase of the size of the tumor, due to the hæmatocele which is formed. If in the latter and more serious way; namely, into the abdominal cavity, — there will be pain, nausea, a feeling of impending danger, restlessness, rapid and thready pulse, suffocation, thirst, blanching of the lips and finger-nails, and disappearance of the tumor.

These symptoms will, of course, be more or less pronounced according to the size of the vessel or vessels ruptured. An absolute diagnosis can never be made, unless the decidua has been expelled, or the foetal heart heard, save by opening the abdomen.

The principal things to be avoided are: first, mistaking a pregnancy in one horn of a bi-cornate uterus for the extra-uterine variety; and I believe that here it would be out of the question to speak with any degree of certainty, unless the condition had been observed before impregnation.

It is hardly possible to mistake an hæmatocele for an extra-uterine pregnancy, as in the vast majority of cases the hæmatocele is secondary to the pregnancy, and will have been preceded by the symptoms of rupture already described. There are, however, a few cases of hæmatocele where the blood tumor is added to from time to time and slowly, and it is well to bear this fact in mind.

A displaced uterus during the early months of pregnancy, complicated by fibro-myoma or cystoma, and a fibroid or tense multilocular ovarian cyst with bosces. can be mistaken for the small parts of the child. I have operated upon two cases, one an ovarian cyst, and the other par-ovarian, where all the symptoms of ectopic gestation were present, and where Dr. Edward Reynolds and myself thought it best for the patients to resort to operation.

In cases presenting all the symptoms of extra-uterine pregnancy, I believe that it is always best to assume the worst until the contrary is proved; and that waiting is the worst of all policies. I personally do not understand how a physician can, after a probable diagnosis has been made, be content to wait for a noticeable increase in the size of the tumor, or for more alarming symptoms. I believe that the right policy for him to pursue is to operate.

In cases presenting all the symptoms — or a sufficient number of them to warrant a presumptive diagnosis — I believe that many cases of unoperated tubal pregnancies, even if not causing the death of the patient, may cause her life-long suffering, in the shape of pelvic inflammation or pelvic abscess.