

Absolute rest, also, sometimes in connection with this — or habitude, as I call it — is invaluable. This is especially true sometimes of operations about the pelvis and rectum; and I think it is true, perhaps not to the same degree it used to be, of operations about the joints. For instance, if you are going to do an operation which will require the limb to be done up in a stiff bandage afterwards, the irksomeness of the confinement will be great to the patient if he has not been accustomed to it, and I have sometimes thought that great gain has been got in the condition of the nervous system before operations on joints by putting the patient to bed and applying a splint for a week or so until he gets thoroughly used to that sort of condition, then after the operation if a bandage is put on he gets back to his habitual state, it is nothing new, and he doesn't fret and twist about and ache as he would otherwise do. We see this also in all surgical accidents, such as broken bones which do not require any operation. The patient with a broken thigh, put on his back, his head tipped down, his back aches furiously about two or three days, and after that he is perfectly comfortable. It is habit. Such a condition is important to establish in a patient before a severe surgical operation.

Modern surgery, I think we all know, has made its great gain by the introduction of anæsthesia first, and by the introduction of asepsis in these latter years. Nothing can be greater than the benefit conferred by anæsthesia, but the benefit conferred by asepsis also has perhaps been equally great, and it is, it seems to me, fully as great a discovery as the other. The surgeon is emboldened now perhaps a little too much. He is tempted to look in and see what is the matter by an incision, when in old times he would have contented himself in palpating the abdomen and trying to balance the probabilities in his mind as to what there might be beneath. I have no doubt that the gain in surgery by asepsis has been very great; and yet I have sometimes been led to think that surgical operations are a little overdone on that account, some done that need not be done; that the impunity to the surgeon given by asepsis is the cause of what I would call his rashness.

Original Articles.

EXTRA-UTERINE PREGNANCY.¹

BY W. F. WHITNEY, M.D.

I HAVE prepared a sketch of extra-uterine pregnancy chiefly from an anatomical point of view, leaving its clinical features to other readers.

From remote times it has been known that the fœtus was found in the abdomen outside of its proper place. The first well-reported authentic case is from a Spanish-Arabian physician of the Middle Ages, who described a woman with an umbilical abscess, from which fœtal bones were discharged. The older anatomists looked upon such cases as curiosities of nature; and it was not until De Graaf and Boerhaave had established the functions and structure of the ovary that a clear understanding was had of the possibilities that might occur. And the first rational grouping of the cases made by a German physician has stood with but little

alteration to the present day. He divided them accordingly into ovarian, tubal or abdominal. To these, various subdivisions have been added, where more than one of these parts have been implicated in the growth of the fœtus or its membranes; but, as can be readily seen, these are of secondary importance.

Schroeder makes the statement that spermatozoa have been found in the pelvis of man and animals, thus proving that it is possible for the ovum to be fecundated either in the ovary or abdominal cavity. And this fact is important to bear in mind when reading the statements of those who claim that all pregnancies outside of the uterus are tubal and later reach the abdominal cavity.

Of the three chief divisions the ovarian may be regarded as the rarest. That is where the ovum is developed within the ovary itself. The most convincing case is that of a woman, murdered by her husband, in whose ovary was a cavity in which a distinct embryo was found. Several others not quite so conclusive are recorded. In the plate from Cruvelhier here shown is seen a mummified fœtus clearly attached to the ovary. And in the illustration from the *Archiv. f. Gynæcol.*, the large mass lying to the left of the uterus is the fœtus still enclosed in its membranes, a section through which is shown below.

The points which are to be borne in mind in the anatomical diagnosis of ovarian pregnancy are: (1) the presence of both tubes without an ovum in them, (2) the utero-ovarian ligament in its proper relation, and (3) ovarian structure in the sac of the fœtus. In most cases this last condition is unfulfilled, as the remnant of ovary is entirely destroyed beyond recognition by the growth of the fœtus. In my own experience I have not as yet met with a case, unless one to be reported by Dr. Worcester, proves to be such on careful examination.

In the abdominal form, the early stages which have been found in the ovary and tube are extremely rare, while there are numerous cases where a quite mature fœtus, in a more or less changed condition, has been removed from the abdominal cavity. Several such specimens have been shown at meetings of this Society. And such facts have been taken as the proof for the assertion that it is the abdominal form alone which can reach maturity. The plates which are shown illustrate what is supposed to be the microscopic appearances in a very early case, and demonstrate how the decidual cells are formed from the connective-tissue cells of the lymph spaces of the peritoneum.

The membranes in the cases of true abdominal pregnancy are usually formed by bands from the peritoneum or from adhesions to the neighboring organs or intestines. In these sacs muscular fibres have been found which are supposed to have come from the subserosa in some way.

The tubal form is the commonest, and, from the fact of its usually rupturing within the first three months, is of the greatest clinical interest. The development of the ovum in the tube presents two points of marked difference from that which takes place in the uterus. First, there is no decidua reflexa formed over the ovum; and, second, the villi of the chorion do not dip down into maternal sinuses. So that the manner in which the nutrition is carried on, is still very puzzling.

Tubal pregnancy first called attention to the migration of the ovum, from the fact of a corpus luteum being found in the ovary of the opposite side. This has

¹ The opening of a discussion on Extra-uterine Pregnancy in the Boston Obstetrical Society, November 12, 1892.

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 foetus undergoes in the abdominal cavity that may be in place to mention here. One of these is the so-called lithopædion or stony foetus. 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 foetus 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 foetus 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 foetus 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 foetus 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