LECTURES ON ECTOPIC PREGNANCY AND PELVIC HAEMATOCELE

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PELVIC HÆMATOCELE.

BY

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LECTURES ON ECTOPIC PREGNANCY AND PELVIC HÆMATOCELE.

AFTER much consideration I have adopted the phrase *ectopic pregnancy*, designed originally by Dr. Robert Barnes, as by far the best which can be applied to the curious and most interesting displacement which we have first to consider, for it gives a convenient and very complete definition without expressing any theoretical explanation of the condition. The cavity of the uterus is the proper *place* for any gestation, but a gestation may be *Ectopic* without being *extra-uterine* as in what has been called the interstitial or tubo-uterine variety. I believe we might call all ectopic gestations "tubular pregnancies," but that would be hardly fair to those who still cling to the belief in the occurrence of the ovarian kind. "Ectopic" includes them all and therefore I adopt it.

The literature of this subject is very extensive and the confusion which exists in it is almost as great, but there are two works which stand prominent for different reasons, and to these I propose to make some extended allusions, for I am greatly indebted to both of them for valuable information. The first is that of Dr. William Campbell, a teacher of midwifery in Edinburgh, who published in 1842 a work in which its industrious author has collected in all probability all the material up to his time, thus forming a mine from which many a quotation has been made by subsequent writers without any kind of acknowledgement. Campbell seems to have had no great critical acumen, however, and his material is confusing alike in its abundance and its utter want of arrangement. His notions of pathology were of the vaguest kind and his capacity for believing all that was told him must have been extensive. His work, however, stands as a landmark in the literature of the subject as the first real effort to place into its appropriate position of importance a subject which, up to that time, seems to have been regarded more as a curiosity than as one of the most dreadful calamities to which women can be subjected. He also exhaustively investigated the literary history of the subject, and his book is of great interest in showing how often discoveries have been made and how easily they are forgotten.

A book of a very different order is that of Dr. John S. Parry, of Philadelphia, published in 1876. It is at once remarkable for

its scholarly research and fine critical sagacity. Most unfortunately this promising author died in the same year, and I never look at the finely cut handsome young face which looks out upon me from the book as its frontispiece, faced by a pathetic letter from his mourning widow, but I become persuaded that in Parry's death one of the greatest lights in gynaecology of my time was lost to us. Had he lived to give us a second edition of his book, its few incompletenesses would have been filled up and its few errors rectified. Where he has got astray has chiefly been by the delusive use of statistics, a point which I shall deal with by-and-bye.

I have already discussed at length my view upon the physiological process of impregnation and the machinery concerned in it, so that I need not do more here than repeat that the uterus alone is the seat of normal conception, that as soon as the ovum is affected by the spermatozoa it adheres to the mucous surface of the uterus; that the function of the ciliated lining of the Fallopian tubes is to prevent spermatozoa entering them and to facilitate the progress of the ovum into the proper nest; further, that the plications and crypts of the uterine mucous membrane lodge and retain the ovum either till it is impregnated or till it dies or is discharged.

With such views it is easy to understand the cause of tubal pregnancy, for we have only to turn to the papers of Arthur Johnstone and Bland Sutton, to see that desquamative salpingitis could at once put the mucous lining of the tube into a condition exactly similar to that of the uterus, and in that condition access of spermatozoa would be possible, retardation of the ovum in the tube would be inevitable, and its immediate adhesion to the tube-wall after impregnation would be as easy and as likely as its occurrence in the uterus. The cause, therefore, of ectopic gestation or tubal pregnancy will be any process or accident which has reduced the Fallopian tube, so far as concerns its internal lining surface, to the same condition as the uterus.

Virchow long ago drew attention to the fact, that at post-mortem examination of cases of ectopic gestation ending fatally at the period of primary rupture, traces of previous pelvic peritonitis were often found and nothing is more common than to find a record of such attacks in the history of cases that come under clinical investigation. Indeed there is one fact about these cases which is very notable in the relation, that a very large proportion of them have a history of prolonged sterility and menstrual suffering, showing that their procreative machinery was out of gear. Thus we often have the history common to tubal mischief that after a first labour there was an illness with marked symptoms of pelvic trouble, then a long period of sterility, then the ectopic gestation ending in rupture. In my clinical records of

such cases I have laid special stress on this feature of their history as a guide to diagnosis. Parry impresses this by saying that "women who have become pregnant with a child outside the uterine cavity frequently show a previous inaptitude for conception. The interval between marriage and the first impregnation is frequently long. If the woman has borne children a period of sterility frequently precedes the extra-uterine pregnancy," and he gives a long list of authorities from whom he elicits confirmatory statements. This is eminently suggestive of the view I have advanced that ectopic gestation is caused by destruction of the proper ciliated epithelium of the tubes, and there are many other points to be successively discussed, which all point in the same direction. Indeed there is no argument against this save the belief that impregnation takes place usually in the tube. For this belief there is no foundation in fact, nothing at all except the misinterpreted facts obtained by experiment in the lower mammals. In these, spermatozoa have been found high up in the cornua of the bipartite uteri and these cornua have been erroneously supposed to be Fallopian tubes, whilst they are nothing of the kind. The Fallopian tubes do not really exist save in the higher order of animals who have assumed the upright position. If we accept this view the physiology of the process of reproduction is immensely simplified and the pathology of ectopic gestation becomes intelligible. I cannot see that any other views than these are consistent with the recent discovery of Arthur Johnstone and Bland Sutton, nor indeed can any others be reconciled with the facts of ectopic gestation as unravelled by modern surgery.

FIG. 1.—Section of normal Fallopian tube (after Bland Sutton).

We have now to deal with the varieties of ectopic gestation and I propose at once to dismiss all previous classifications as inconsistent with the facts as they have occurred in my own experience and incompatible alike with the view of the explanation of the cause of ectopic gestation which I have offered and with the physiology of impregnation. The uterus being regarded as the

only site possible for normal pregnancy and the tract through which the ovum passes and in which it may be impregnated in the abnormal process, it follows as a matter of course that all ectopic gestations must, in their origin, be tubal. A possible exception to this may be the impregnation of an ovum in its vesicle before it leaves the ovary—a matter I shall discuss immediately.

A clinical distinction of two kinds of tubal pregnancy must be made, though pathologically they must be regarded as quite similar. This division occurs between the cases in which the fertilised ovum becomes attached to the inner wall of the tube where it is free from uterine tissue, and those cases where the ovum cavity is formed by the distension of the tube at that part imbedded in the structure of the uterine wall. These cases have been called "interstitial" and I propose to retain this term.

The process of development of an ovum in the tube at any part of it, inevitably results in rupture of the tube. In the "interstitial" cases, the rupture, so far as is known, always takes place into the peritoneal cavity, and I cannot imagine any other way in which it might go, though we have assertions that a diagnosis has been made of tubal pregnancy which has ended by the ovum being discharged through the uterus. Such cases are easily dismissed from serious discussion, for I have never seen a preparation of interstitial pregnancy which could, by any possibility, have been diagnoised from normal pregnancy before the period of rupture. It is easier to believe, therefore, that such cases as I speak of have been errors of diagnosis than that the uterine tissue has been ruptured and the pregnancy has become intra-uterine. And here let me state that about this subject, as indeed about nearly everything else in this book, I do not give as a fact anything which has not been verified, either by post-mortem or ante-mortem examination. Any man who gives an opinion that he diagnosed a tubal pregnancy, or any other lesion, and that its course was this, that, or the other, merely upon the unaided discrimination of symptoms or the dim light of a pelvic examination, I regard with so much suspicion that I do not accept his evidence for argument save under exceptional circumstances. Post-mortem records, museum specimens, and the facts observed at operations yield evidence which is usually incontrovertible, and such as these only do I care to use. The interstitial ectopic gestation ruptures uniformly as I have said, and so far as we know, into the peritoneal cavity. The period of its rupture seems to be variable from three to twenty weeks, a fact which I derive from post-mortem record and museum specimens solely, for I have had no operative experience of this disaster and have had only one case within my own associations.

Ectopic gestation in the free portion of the tube infallibly involves rupture at some part of its progress before the fourteenth

week, in fact I think I might say the twelfth week, for out of an enormous number of specimens I have examined I have entirely failed to satisfy myself that rupture had been delayed later than the twelfth week, and I have seen it as early as the fourth week of gestation. This rupture I propose to term "primary rupture," and it constitutes in one direction, the most disastrous accident known amongst women.

This tubal rupture takes two directions *(a)* into the peritoneum which is the fatal form; and *(b)* into the cavity of the broad ligament, a form which yields the variety of ectopic gestation which I propose to call extra-peritoneal which was called the "sous-peritoneo-pelvienne" variety by Dezeimeris, and which alone yields all the cases which go on to the period of viability, all the lithopœdia, all the suppurating cysts discharging into bladder, rectum, &c., and also the cases which by *secondary rupture* of the *ovum cyst*, get called "abdominal pregnancy."

Fig 2.

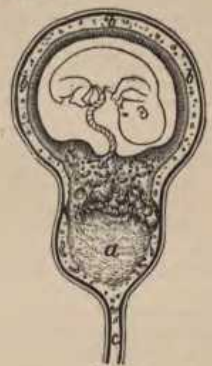

Fig. 3.

Figs. 2 and 3.—Diagrammatic section of Fallopian tube representing the two directions of rupture, 2, into the peritoneal cavity; 3, into cavity of broad ligament; *a*, clot at point of rupture; *b*, wall of Fallopian tube; *c*, cavity of broad ligament with (3) folds separated by hæmic effusion *a*.

This is the view of ectopic gestations I first propounded in 1873, and Parry commended it with the expression that it at least had the merit of simplicity. I have, during the fifteen years which have elapsed, missed no possible opportunity of examining preparations of ectopic gestations, and nearly a hundred cases have passed under my own observation, directly or indirectly, for post-mortem investigation or surgical interference, and I have not found a single fact inconsistent with the views just briefly announced and now to be discussed at length. On the contrary,

these views of ectopic gestation bring harmony where formerly all was discord, make orderly what has hitherto been nothing but confusion. We may, therefore, construct a genealogical table of Ectopic Gestation, which gives the history at a glance as follows :—

SCHEME OF ECTOPIC GESTATIONS (in tubo-ovarian tract).

I.—Ovarian, possible but not yet proved.

II.—Tubal, in free part of tube, is *(a)* contained in tube up to fourteenth week, at or before which time primary rupture occurs, and then progress of the gestation is directed into

(b) Abdominal or intra-peritoneal gestation uniformly fatal (unless removed by abdominal section), primarily by hæmorrhage, secondarily by suppuration of the sac and peritonitis ;

(c) Broad ligament or extra-peritoneal gestation ;

(d) may develop in broad ligament to full time and be removed at viable period as living child ;

(e) may die and be absorbed as extra-peritoneal hæmatocele ;

(f) may die and the suppurating ovum may be discharged at or near umbilicus, or through bladder, vagina, or intestinal tract ;

(g) may remain quiescent as lithopedion ;

(h) may become abdominal or intra-peritoneal gestation by secondary rupture.

III.—Tubo-uterine or interstitial is contained in part of tube embraced by uterine tissue, and, so far as is known, is uniformly fatal by primary intra-peritoneal rupture (as *b*) before fifth month.

A few cases of pregnancy in hernial sacs have been unearthed by Campbell and Parry, but these, so far as can be judged by the somewhat meagre details and unsatisfactory accounts of most of them, can hardly be regarded as instances of ectopic gestations. They are rather instances of a hernial uterus in which impregnation has been accomplished.

The first division of our subject in natural order is the much discussed "ovarian" gestation. Concerning this I may well quote a sentence from Parry, for though it is not directly applied to this point it most truly may be: "Special treatises on obstetrics, as well as periodical medical literature, teem with statements which are utterly unreliable, and which are calculated to mislead investigators of this subject."

The beliefs prevalent on the subject of impregnation naturally enough have always influenced the theories of writers on ectopic gestations, it is so now in my own instance, and therefore we find writers of the time of Haller believing that ovulation was excited by coitus, expressing many strange notions about abnormal pregnancies. The belief that the spermatozoa reached the ovum