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Ruptured Extra-Uterine Pregnancy.

BY W. W. JAGGARD, M.D.

ADJUNCT PROFESSOR OF OBSTETRICS, CHICAGO MEDICAL COLLEGE.

Read before the Chicago Medical Society, Dec. 1, 1884.

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PALLIATIVE MEASURES IN RUPTURED EXTRA-UTERINE PREGNANCY.

An editorial bearing this title and appearing in the *New York Medical Record*, of Oct. 25, 1884, contains the following statement:

“There is no palliative measure for a ruptured extra-uterine cyst; there is no expectant treatment; and there is no other way known to medicine by which a woman in this condition can be reasonably expected to survive, save by the prompt use of the knife, and there is no reason for thinking that she would die if this be resorted to in time.”

The object of this paper is to offer a protest against this *ex cathedrâ* mode of settling a question, in regard to which there is room for considerable latitude of opinion. Dogmatism, offensive and unphilosophical under all circumstances, attains its acme of arrogance when applied to rules of practice in medicine and surgery. Certainly, the use of the universal proposition, in the assertion just quoted, is both in bad taste and positively erroneous. In the ensuing discussion, attention is limited to the consideration of tubal pregnancy, because of its most frequent occurrence, and usually early termination. Furthermore, criticism of the treatment of the case, detailed in the *Record's* editorial, is incidental.

Tubal pregnancies may terminate: (1) in the death of the embryo and gradual resorption of the ovum, before rupture of the sac; (2) the sac may rupture, but the egg may remain within, and act as a tampon; (3) the cyst may rupture into the *ligamentum latum*, with the formation of a hæmatoma; (4) the sac may rupture into the peritoneal cavity, with the formation

of a retro-uterine hæmatocle; (5) the sac may rupture into the peritoneal cavity, and the life of the woman may be threatened by free hæmorrhage, or the resulting peritonitis; (6) the ectopic pregnancy may persist until the expiration of the full period of utero-gestation. It is impossible, in the present state of medical knowledge, to make any positive statement as to the relative frequency of these terminations. Until within a comparatively recent period of time, only those cases were designated tubal pregnancies, in which the diagnosis was made by an autopsy. It is highly probable that ectopic gestation is of more frequent occurrence than the older systematic writers would lead one to believe. It is also probable that termination by recovery is not an uncommon event. These assertions receive some support from the experience of Professor Karl Schroeder:

¹ "I myself see so frequently cases of tubal pregnancy, in which the diagnosis is positive, pursuing a favorable course, that I consider recovery as the regular termination."

The second, third, fourth and fifth modes of termination are alone pertinent to the present discussion.

(2.) *The sac may rupture, but the egg may remain within, and act as a tampon.* Such cases, with favorable results to the mothers, have been observed by *Wiedersperg*² and *Virchow*.

Operative interference in such cases is so obviously contraindicated, that it is unnecessary to enter upon any comment upon that subject.

(3.) *The cyst may rupture into the ligamentum latum, with the formation of a hæmatoma.*

This termination of tubal pregnancy has been observed, up to the present time, with comparative infrequency.³ There can be no doubt, however, as to

¹ Karl Schroeder's *Lehrbuch d. Geburtshilfe*, Bonn, 1884, p. 422.

² Otto Spiegelberg's *Lehrbuch d. Geburtshilfe*, Lehr, 1882, p. 290.

³ Karl Braun's *Lehrbuch der Gesammten Gynækologie*, Wien, 1883, p. 634.

its actual occurrence. The sac ruptures into the broad ligament, the embryo escapes, and an extraperitoneal hæmatoma arises. The embryo may go on to full development in this region; usually it dies and undergoes reductive metamorphosis, while hæmorrhage is checked by the pressure of the folds of the broad ligament.

Schuchardt¹ has demonstrated the possibility of this mode of termination by his celebrated case, published in Virchow's Archives. J. Veit² has observed the same occurrence.

Primary laparotomy is not indicated by this termination, for the reason that the natural history of the condition shows that hæmorrhage is usually controlled by the relations of the parts, and ultimately complete resorption of coagula and embryo occurs. Exceptional cases, however, may indicate operative procedure for the arrest of hæmorrhage or removal of the embryo.

(4.) *The sac may rupture and the fœtus escape into the peritoneal cavity, with the formation of a retro-uterine hæmatocele.*

Ollivier, Leclerc, Schroeder, Vignès, Gallard, Karl Braun, Veit, Chiari, and others, have observed this mode of termination. There can be no doubt as to its occurrence.

As to the frequency of its occurrence, opinions and statistics widely differ. Gallard³ makes the statement that hæmatoceles, arising independently of trauma, are almost always due to the rupture of the cyst of extra-uterine pregnancy. Schroeder⁴ says: "This etiology of the hæmorrhage (retro-uterine hæmatocele) is decidedly of very frequent occurrence, even if the tubal pregnancy is seldom diagnosed."

¹ Virchow's Arch., Bd. 89, p. 133.

² Die Eileiterschwangerschaft—von Dr. J. Veit, Stuttgart, 1884.

³ Leçons cliniques des maladies des femmes. Paris, 1875 p. 635 ff.

⁴ Handbuch der Krankheiten der Weiblichen Geschlechts-Organen, von Dr. Karl Schroeder, Leipzig, 1881, p. 452.

Veit¹ has very recently collected 146 cases of hæmatocele, of which 40, or 28 per cent., are referred to this mode of origin. He is convinced that 28 per cent. is a low estimate of the frequency of occurrence of this etiological factor. It is highly probable, if not positively determined, that the rupture of the cyst of ectopic pregnancy is a more frequent cause of retro-uterine hæmatocele than the standard American and English text-books are disposed to admit.

The course and results of retro-uterine hæmatocele, caused by the rupture of the cyst of extra-uterine pregnancy, have been the subjects of recent study. The extravasated blood is collected in the recto-uterine peritoneal pouch, encysted, and, together with the product of conception, may be resorbed after a very variable interval. Hæmorrhage in these cases is arrested by the diminution in the force and frequency of the heart's action, the process of thrombosis, and the equalization of blood pressure within the arteries and the extravasation. (Schroeder.) Death² from anæmia, in the 40 cases collected by Veit, occurred but three times. No one who is at all familiar with the literature of the subject, more particularly with Leopold's experiments upon the lower animals, can entertain any doubt as to the possibility of complete resorption of the embryo. Schroeder has seen, in an autopsy on a woman, dying from a ruptured tubal pregnancy, all the peritoneal lymphatic vessels filled with red blood. Fatal peritonitis, acute or chronic, like fatal hæmorrhage, is a relatively rare termination. Schroeder, Veit and Voisin have expressed themselves very positively in favor of the view that, after rupture of the cyst of tubal pregnancy, with escape of the product of conception and the formation of a retro-

¹Die Eileiterschwangerschaft von Dr. J. Veit. Stuttgart, 1884, p. 14.

²Die Eileiterschwangerschaft, von Dr. J. Veit, Stuttgart, 1884, p. 15.

uterine hæmatocele, recovery is the rule, and death the exception.

The prognosis is the same as in cases of hæmatocele from other causes. Hæmorrhage is seldom the cause of death. Peritonitis is a prognostic element of more serious import. Of the 40 cases collected by Veit, 11 died of peritonitis, at intervals of from a few days to several months.

Remarkable unanimity of opinion, as regards the treatment of retro-uterine hæmatocele, from whatever cause, exists at the present time. Schroeder, Veit, Karl Braun, Spiegelberg, Barnes, Emmet and Thomas advise the expectant plan of treatment. Absolute rest in bed in the horizontal position, or with the hips elevated, and the thighs slightly flexed upon the abdomen, the local application of cold,—ice-bags to the abdomen, bits of ice in the vagina, cold water rectal irrigation, catheterization of the bladder, in case of retention of urine, the exhibition of opium and chloral hydrate, are points of treatment, to which it is scarcely necessary to call attention in this connection.

Surgical interference, at an early stage, is seldom, if ever, indicated for reasons detailed in the foregoing brief sketch of the natural course and results of the condition.

Surgical interference, at a later stage, is considered justifiable under two indications: (1) persistence of the tumor in its original volume through weeks, without any diminution or alteration, with the occurrence of pains, which confine the patient to her bed for a considerable period of time; (2) the occurrence of suppuration or ichorous ulceration within the tumor. (Bandl, Billroth's Handbook.)

Even under these indications, laparotomy is not regarded as the operation of election. Dr. A. Martin astonished the members of the *Naturforscherver-sammlung*, in Salzburg, by the communication, that

he had performed laparotomy three times, on account of abdominal, blood tumors. The three patients died. Baumgärtner, since the reading of Dr. Martin's paper, has performed laparotomy, on account of a peri-uterine blood tumor, once. The patient made an excellent recovery. With these statistics, laparotomy has roused no degree of enthusiasm. Operators of the present day limit their interference to the various modifications of the methods, originally suggested and practiced by Nélaton, that is, vaginal puncture, or incision.

(5.) *The sac may rupture into the peritoneal cavity, and the life of the woman may be threatened by free hæmorrhage, or the resulting peritonitis.*

Free hæmorrhage into the peritoneal cavity and consecutive peritonitis have been regarded, for so long a period of time, as the exclusive mode of termination of tubal pregnancy, that no evidence is required to establish the fact of occurrence. Again, opinions and statistics differ widely as to the relative frequency of this mode of termination. The tendency of modern investigation is in favor of the view that free hæmorrhage into the peritoneal cavity and resulting peritonitis are unusual occurrences. ¹Fatal hæmorrhage is very seldom observed, according to the observation of J. Veit, when rational expectant treatment has been practiced. Cases terminating by recovery either do not come under observation, or doubt as to the accuracy of the diagnosis is entertained. On the other hand, cases terminating by death from hæmorrhage or peritonitis are almost always subjected to post-mortem examinations. Very naturally, in the course of time, the fallacious induction—that death from hæmorrhage or peritonitis is the rule—has been made.

It is highly probable that many of the cases, recently reported in American and foreign journals, of

¹ Die Eileiterschwangerschaft, von Dr. J. Veit, Stuttgart, 1884, p. 65

favorable termination of tubal pregnancy before rupture of the cyst, as the result of the passage of the electric current, have resulted favorably, not from the death and resorption of the embryo within the sac, but from rupture of the cyst, death and escape of the embryo in the modes just indicated. The effect of an electric current upon smooth muscular fibre is to produce a contraction. When the number of séances, the currents employed, and the symptoms following, are taken into consideration, it is difficult to escape the conviction that in some cases, at least, the favorable result ought to be ascribed to rupture of the cyst. The question of treatment, when the patient's life is threatened by free hæmorrhage into the peritoneal cavity, or by peritonitis, is difficult and important.

Wiltshire, Lawson Tait, Knowlsley Thornton, and *our editorial friend* of the *New York Medical Record*, see in this condition an absolute indication for *immediate laparotomy*. There are others,—and they may be justly designated “surgical leaders of the day,”—who do not recognize this absolute indication for immediate operative procedure.

The prognosis of laparotomy, after rupture of the cyst, is by no means as favorable as in tubal pregnancy before rupture.

The reasons for gloomy prognosis are evident.

The operation must be performed upon a woman in a condition of more or less profound shock. The state of acute anæmia exercises an unfavorable influence. Ether is dangerous, from the possibility of dislodgment of a thrombus and renewal of hæmorrhage. Chloroform must be used with extreme caution, on account of the enfeebled heart. The blood poured out into the peritoneal cavity is mechanically removed, instead of undergoing resorption. The *technical* difficulties of the operation are great. The anatomical relations of the

parts are very different from those in cases of consecutive or secondary hæmorrhage, after extirpation of tumors by abdominal section. It is difficult, even on post-mortem examination, to differentiate between tissues and organs. *In viva*, the complications are still more intricate, as all who have had experience will testify. The choice of time, of place, and of operator, is out of the question. Abdominal section must be made without qualified assistants, and without attention to the principles of antiseptic surgery. If the patient is removed to a hospital, she may die on the way. If she survives transport, the assumption of spontaneous recovery is justifiable.

“Is, therefore,” says Veit, “the prognosis of the operative procedure gloomy *per se*, the prognosis of the tubal pregnancy remains the same; indeed, it grows better with every hour the patient lives after rupture, so that of laparotomy and arrest of hæmorrhage there really can be no serious talk.” Finally, Veit, after a careful study of the literature of the subject, has been unable to find *one recorded case*, in which the patient's¹ life was saved by the operation.

Under the expectant plan of treatment, is included a variety of expedients. Absolute rest in bed, in the horizontal position, the free exhibition of opium, compression of the abdominal aorta by sand-bags, shot-bags, ice-bags, tourniquet, or the band, rectal irrigation with ice-water, are the more important methods by which hæmorrhage may be controlled and the process of thrombosis favored. It is not necessary to add that all cardiac stimulants and counter-irritants must be proscribed.

If, notwithstanding this therapy, symptoms of internal hæmorrhage persist, abdominal section may be resorted to as the only procedure, that offers hope.

It may not be amiss to note the “surgical leaders

¹ Veit. Die Eileiterschangerschaft, p. 64.

of the day," who defend the line of treatment thus briefly sketched :

Karl Braun, Karl Schroeder, J. Veit, August Martin, Sir Spencer Wells, T. Gaillard Thomas, and Thomas Addis Emmet, all advise the expectant plan of treatment, until it has proved futile.

2330 Indiana Avenue, Dec. 1, 1884.

