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Thirty-five Consecutive Cases of Extra-uterine Pregnancy dealt with by Abdominal Section without a Death.¹

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EXTRA-UTERINE gestation is in these days a derangement of not infrequent occurrence, yet a clinical synopsis of thirty-five cases dealt with by abdominal section in the practice of one individual may be of interest, and it may help to dissipate some of the erroneous impressions which exist regarding this remarkable phenomenon—impressions due to conclusions framed and promulgated on insufficient data. The group is a very varied one. It includes six cases in which the foetus had arrived at maturity and had died before delivery was effected, and three in which the operation was performed after the development of the placenta was completed and whilst gestation was actively progressing. The majority of the cases, as is natural, were cases in which the embryo had perished at an early stage of its existence in consequence of a more or less extensive extravasation of blood caused by the rupture of one or more of the physiologically enlarging maternal vessels. One only is specified as an undoubted case of ovarian pregnancy, but I am constrained to believe that some of those in which the gestation sac was located in the broad ligament were also cases of ovarian pregnancy, and my reason for expressing this belief is that had they ever been located in the tube internal hæmorrhage would have occurred, and, moreover, we occasionally find true ovarian cysts in the mesometrium, and there is no apparent reason

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why an actively progressing ovarian pregnancy should not also gradually insinuate itself into the substance of the broad ligament.

CASE 1. *Full-time extra-uterine pregnancy; gestation sac in left broad ligament; fœtus dead.*—The patient, aged 34, had been married for four years and had had one child. The child was born three years previously and was suckled for fourteen months, and was weaned because the menstrual discharge had reappeared. From this time until twelve months before the patient came under my care menstruation had recurred regularly. Twelve months ago "a period" was missed and the patient considered herself pregnant. After seven weeks' amenorrhœa she had a severe attack of abdominal pain and fainted. On regaining consciousness she observed that there was a slight hæmorrhagic discharge from the genitals. In two hours this discharge had ceased and she was quite herself again. After a lapse of four weeks there was again a slight hæmorrhagic discharge, but no pain. After a period of six months, during which there was complete amenorrhœa, there was again "a slight show" of blood, but still no pain. Three months later what the patient considered her usual menstrual discharge made its appearance. As, however, it had persisted for four weeks she consulted me. She had all along considered herself pregnant, but she was not quite certain that she had ever felt movements. Colostrum was readily obtained from both breasts.

Operation.—A full-time female child with its placenta was abstracted from the left broad ligament. The peritoneal cavity was extensively opened. The sac was stitched to the anterior abdominal wall and drained.

CASE 2. *Full-time extra-uterine pregnancy; gestation sac in right broad ligament; fœtus dead.*—The patient, aged 33, had been married for six years and had had two children; these were twins and they were born five years previously. Twelve months ago the patient missed two menstrual periods, and when she considered herself ten weeks pregnant she was suddenly seized with severe abdominal pain, sickness and diarrhœa. The sickness and diarrhœa soon subsided, but for nine and a half months she had complained more or less of abdominal pain. When five months pregnant "a fleshy piece" was passed without hæmorrhage, and this no doubt from its description

was a large piece of so-called decidual membrane. A month later there was a "slight show" of blood from the genitals. The foetal movements were felt after about the fifth month, but the patient could not remember when she ceased to feel them. After a period of practically twelve months' amenorrhœa delivery was effected by abdominal section. The breasts were flabby, but colostrum was readily obtained.

Operation.—A full-time male child was removed from the right broad ligament. The placenta was not removed. The sac was stitched to the abdominal wall and drained. The abdominal incision opened the peritoneal cavity extensively.

CASE 3. *Full-time extra-uterine pregnancy; gestation sac in left broad ligament; fœtus dead.*—The patient, aged 33, had been married for nine years, had had five children and one miscarriage. The last child was born three years previously and was suckled for fifteen months. Fifteen months ago the menstrual discharge failed to make its appearance, and for ten and a half months thereafter there was complete amenorrhœa. The menstrual discharge then reappeared, and during the five months preceding her visit to me menstruation had recurred regularly and she was advised to see me because she had gone seven months over the time she expected to be confined and the abdomen was still large. The breasts were not characteristic of pregnancy and colostrum could not be obtained from them.

Operation.—A full-time male child was extracted from a sac in the left broad ligament. This was effected without opening the peritoneum. The sac was drained. The placenta, in pieces, came away afterwards.

Since the operation this patient has been twice pregnant. On the first occasion she miscarried; on the second she carried the child to full time and was confined of a living child without trouble.

CASE 4. *Full-time extra-uterine pregnancy; gestation sac in a capsule connected with the right ovary, in a peritoneal sac resembling that of the tunica vaginalis.*—The patient was aged 33, and had been married for nine years. She had had three children and one miscarriage; the last child was born three and a half years previously. Twelve months ago the patient missed being unwell, and for eleven months thereafter there was complete amenorrhœa. She had considered herself pregnant, but nothing unusual

happened until towards the end of the eleven months' amenorrhœa, when she observed that she had come unwell, and as this hæmorrhage had persisted for nineteen days she was advised to see me. She had never during the eleven months suffered any pain. She had felt the movements from about the fifth month. The breasts were characteristic in appearance and colostrum was obtained readily from both.

Operation.—The foetus with its placenta was removed from a sac connected with the right ovary. The greater portion of this sac was excised; the remainder was stitched to the abdominal wall and drained. The peritoneum in this case was opened very extensively.

CASE 5. *Full-time ovarian pregnancy; gestation sac containing foetus and placenta removed intact; foetus dead.*—The patient, aged 39, had been married for twelve years and had had one child: the child was born eleven years previously. During the last twelve months there had practically been complete amenorrhœa. At the fourth, ninth, and tenth month of this amenorrhœal period there was a "mere show of blood." On the first of these occasions a fleshy piece, which no doubt was decidual membrane, was passed. About the time that the second period was missed the patient complained a good deal of abdominal pain, and this troubled her altogether for three or four weeks. From this time onwards she experienced very little abdominal discomfort. The foetal movements had been felt, but she was uncertain when she first felt them and when she ceased to feel them. The breasts were not characteristic in appearance, but colostrum was obtained easily from both.

Operation.—The right mesovarium was ligatured and dealt with as in the case of any ordinary ovarian cyst, and the tumour containing the foetus and placenta was removed intact. The tumour was incised after it had been removed, and the foetus and placenta were then for the first time brought into view.

CASE 6. *Full-time extra-uterine pregnancy; gestation sac in left broad ligament; foetus dead.*—The patient, aged 37, had been married for fifteen years and had had five children, the last child having been born ten years previously. Eleven months ago a menstrual period was missed, and fourteen days later she started losing and lost continuously for eight weeks. After this there was complete amenorrhœa

for seven months. During this amenorrhœal period she had complained slightly of pain in the left iliac region, but this had never been severe. After this and immediately before seeing me the patient had had what she considered two normal menstrual periods. The breasts did not arouse one's suspicion of pregnancy; no colostrum was obtainable from them.

Operation.—A full-time female foetus was abstracted from a sac in the left broad ligament. An attempt to remove the placenta provoked free hæmorrhage, so I left it and stitched the sac to the abdominal wall. The peritoneum in this case was extensively opened.

CASE 7. *Six months extra-uterine pregnancy; gestation sac in left broad ligament; foetus dead.*—The patient, who was 28 years of age, and had been married three and a half years, had had no child and no miscarriage. Until eight months previously menstruation had recurred regularly. There was then for five months complete amenorrhœa. During the succeeding three months she had on two occasions observed signs of a slight hæmorrhagic discharge. Almost immediately the first period was missed she began to complain of morning sickness, and this was noted altogether for about two months. Ever since the first period was missed she had complained of dull aching pain in the left iliac region. The breasts were not characteristic of pregnancy, but colostrum was readily obtained from both.

Operation.—The foetus was undergoing degeneration and tore in pieces on being extracted. The placenta was removed also. The sac was stitched to the abdominal wall and drained. It was traversed by two peculiar and thick fibrous bands. The peritoneal cavity was opened extensively.

CASE 8. *Four and a half months extra-uterine pregnancy; gestation sac in left broad ligament; foetus extracted alive.*—The patient, aged 25, had been married for five and a half years, and had had two children, the last child having been born two years previously. For four and a half months there had been complete amenorrhœa. By a medical attendant prior to the attendance of the doctor in consultation with whom I saw this patient, curettage was done when the extra-uterine pregnancy had been in existence six or seven weeks. In consequence of the curettage there was for two days a slight hæmorrhagic discharge. Soon after the first menstrual period was

missed and before the uterus was curetted the patient had complained of severe abdominal pain, and it was on account of recurring attacks of this pain that I was asked to see her. The appearance of the breasts was suspicious of pregnancy, but no colostrum could be obtained from them.

Operation.—The foetus, which displayed signs of life for nearly fifteen minutes after it was removed from the mother's body, lay in a sac in the left broad ligament. The placenta was separated and removed also. Many vessels at the base of the sac had to be ligatured. The sac was closed with deep and superficial catgut sutures; it was not stitched to the abdominal wall. The latter was closed in three layers.

CASE 9. *Four months extra-uterine pregnancy; gestation sac in right broad ligament; foetus abstracted alive.*—The patient, aged 28, had been married seven years and had had two children; the last child was born two years previously. Three months ago the patient missed a menstrual period, and about the time when the second period was due she was suddenly seized with severe pain in the abdomen, and twenty-four hours later she remarked that she had come unwell. This discharge continued for seven days and was looked upon as being an ordinary menstrual discharge. During the first day of this discharge a piece of membrane was passed. Four weeks later there was for one day only a slight show, and I was asked to see her because she had for five weeks complained of general discomfort in the abdomen. The breasts were characteristic in appearance, and colostrum was readily obtainable from both.

Operation.—A living foetus was extracted from a sac in the right broad ligament. It showed signs of life for nearly twenty minutes after it had been severed from the placenta. The placenta was stripped from the sac and removed. There was free hæmorrhage, and several large vessels had to be ligatured. This sac was stitched with deep and superficial catgut sutures. It was not incorporated with the abdominal wall. The latter was closed in three layers.

CASE 10. *Four months extra-uterine pregnancy; gestation sac in right broad ligament; foetus abstracted alive.*—The patient, aged 30, had been married for seven years, and had had one child; the child was born six years previously. Three months ago whilst the patient was on

her way to England in a steamship she was suddenly seized with severe pain in the abdomen and became collapsed. She had then gone fourteen days over her usual time for being unwell. On the day of the pain there was a "slight show of blood," but on the following day the patient had quite recovered from her indisposition and seemed in her usual health. Two months later she had a similar attack of pain, and again became collapsed, and fourteen days later still she had another attack, and in this there were also marked signs of collapse. On the day succeeding each of these attacks she, however, seemed to be fairly well. With the exception of the slight show of blood on the occasion of the first attack of pain there had for four months been complete amenorrhœa. The breasts were suspicious of pregnancy, but no colostrum could be obtained from them.

Operation.—The foetus lived for nearly fifteen minutes after it was removed from the mother's body. The placenta was stripped from the sac and removed. Several vessels were ligatured. The sac was closed with deep and superficial catgut sutures. It was not incorporated with the abdominal wall. The latter was closed in three layers.

CASE II. *Four months extra-uterine pregnancy; gestation sac in left broad ligament; pus in and about sac; foetus dead.*—The patient, who was aged 31, and had been married for six months, had had no child and no miscarriage. Since the week before marriage there had practically been complete amenorrhœa. Three months after marriage the patient was suddenly seized with severe abdominal pain, sickness, and diarrhœa. This attack was by the patient herself attributed to something she had partaken of as food. For one month she had observed occasionally a slight hæmorrhagic discharge from the vagina. During this month the temperature had varied from 99° F. in the morning to 102° F. and sometimes 103° F. in the evening. The breasts were not characteristic in appearance, but colostrum could be obtained with difficulty, however, from both.

Operation.—A four months foetus in an advanced state of decay was removed from a sac in the left broad ligament. The placenta, in a very degenerate condition, was removed. The sac tore readily, even when handled gently; with great difficulty it was stitched to the abdominal wall. It was drained,

CASE 12. *Three and a half months extra-uterine pregnancy; gestation sac in left broad ligament: foetus dead.*—The patient was aged 34, and had been married six years. She had had one child, the birth having taken place three and a half years previously. For four and a half months there had been complete amenorrhœa. About seven days after the second menstrual period was missed, the patient had a severe attack of abdominal pain, and since that she had had five or six similar attacks. When she considered herself three and a half months advanced in pregnancy "a fleshy piece," which no doubt was decidual membrane, was without any hæmorrhagic discharge expelled from the genitals. During the two weeks preceding operation the temperature had varied from 99° F. in the morning to 101° F. in the evening. There was nothing to note about the breasts.

Operation.—The foetus and placenta were removed from a sac in the left broad ligament. In the placenta there were the evidences of two or three old extravasations of blood into its substance. The sac was stitched to the abdominal wall and drained.

This is the only case of extra-uterine pregnancy in which I have detected old extravasations of blood in the substance of the placenta, and in this case these no doubt caused the death of the foetus.

CASE 13. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 29, had been married eight weeks. She was unwell seven days before marriage, and about fourteen days after marriage she was suddenly seized with severe abdominal pain, which was most acute in the left hypochondriac region. In this attack the patient fainted. On regaining consciousness she detected a hæmorrhagic discharge from the genitals, and this had persisted for six weeks. During these six weeks she had complained more or less of abdominal pain, but she had had no recurrence of the very severe pain.

Operation.—There was free blood in the peritoneal cavity. There was a large amount of clotted blood in the pelvis confined by adhesions. The left tube was distended with crummy blood. No embryo could be detected, but under the microscope villi were recognizable.

CASE 14. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 31, had been married four months. She was twice unwell after marriage.

She then missed a period. Fourteen days later she was seized with severe abdominal pain and started losing. The hæmorrhagic discharge had now persisted for one month. Seven days after the first attack of pain the patient had another even more severe than the first. When I saw her the pulse numbered 120 per minute, and the temperature was 98° F. Colostrum was obtainable from both breasts.

Operation.—There was a large quantity of recent blood clot in the pelvis confined by adhesions of omentum and gut. The left tube was distended with blood clot, and in a more globular portion of the distended tube an embryo of about six weeks was detected.

CASE 15. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, who was aged 29, and had been married twelve months, had had no child and no miscarriage. She consulted me because she had considered that ten weeks previously she had miscarried, being then seven weeks pregnant, and the external hæmorrhage had never abated. During these ten weeks she had complained of pain in the right iliac region, but this had never been severe. When the hæmorrhagic discharge first made its appearance, "a fleshy piece" was passed. This probably was a piece of decidual membrane, and it was the passing of this piece after a period of seven weeks' amenorrhœa which no doubt caused the patient to state that she had miscarried.

Operation.—There was a large quantity of recent clot confined in the pelvis by adhesions. The right tube was greatly distended with blood clot. No embryo could be detected, but the microscope revealed the presence of chorionic villi.

CASE 16. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient was aged 24, had been married twenty months, and had had one child, who was born eleven months previously. The child had not been suckled. The menstrual discharge reappeared six weeks after the confinement, and recurred regularly thereafter for three months. A menstrual period was then missed, and after eight weeks' amenorrhœa the patient was suddenly seized with severe pain in the lower abdomen, and almost simultaneously she observed that she had come "unwell." She consulted me because she had been unwell practically for four months. She had had no recurrence of the severe

pain, but she had complained more or less of pain in the right iliac region since the attack of four months ago.

Operation.—The bowel and omentum were firmly adherent to the right Fallopian tube, which was distended with blood clot and adherent to the pelvic floor. The tube was torn in the process of extraction and was removed piecemeal with the clot.

CASE 17. *Internal hæmorrhage consequent upon an extra-uterine pregnancy which occurred during lactation.*—The patient, aged 30, had been married for three years and had had one child, the birth having taken place ten months previously. The child was still being suckled. She consulted me on account of a hæmorrhagic discharge which had persisted for four weeks. Prior to this there had been no recurrence of menstruation since the confinement. When the hæmorrhagic discharge first made its appearance she had a severe attack of abdominal pain, and since then she had had two similar attacks of pain.

Operation.—There was a large quantity of free blood in the abdominal cavity which had apparently oozed from the fimbriated end of the left tube. The tube was distended with recent blood clot and in a sacculation near the abdominal end of the tube an embryo of about six weeks was observed.

CASE 18. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 25, had been married for three years and had had one child and no miscarriage. The child was born two years previously. Three weeks ago the patient, having gone fourteen days over her usual time for menstruating, started losing, and this hæmorrhagic discharge had continued ever since. During these three weeks she had had four attacks of severe abdominal pain, but she was uncertain whether the first attack of pain preceded or succeeded the appearance of the hæmorrhagic discharge.

Operation.—There was a large amount of blood clot in the left pelvis confined by adhesions between the pelvic and abdominal organs. The left tube was greatly distended with blood clot. Chorionic villi were detected.

CASE 19. *Internal hæmorrhage consequent upon extra-uterine pregnancy with cystic degeneration of the ovary on the opposite side.*—The patient, aged 28, had been married for four years and had had no child and no miscarriage. Five weeks before coming under my observation this

patient, having gone fourteen days over her usual period of menstruating, was seized with pain in the lower abdomen and with severe pain in the left hypochondrium. She became very faint, and there and then she remarked that she had become "unwell." For five weeks this hæmorrhagic discharge had persisted; she had had no recurrence of the severe pain, but all along she had complained more or less of abdominal pain. The temperature was normal and the pulse numbered 110 per minute.

Operation.—There was a large quantity of free blood in the peritoneal cavity. The right tube was distended with crummy clot and in this tube chorionic villi were eventually detected. The left ovary, which was of the size of a closed fist, was cystic.

CASE 20. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 30, had been married for four years and had had no child and no miscarriage. Three months before coming under my observation this patient had menstruated as usual. The next period was five days late, and on this occasion the discharge continued for fourteen days. Since then there had been complete amenorrhœa, but during these six weeks she had had three severe attacks of abdominal pain. The temperature was subnormal and the pulse numbered 125 per minute.

Operation.—There had been extensive hæmorrhage from a rupture in the right tube, but this extravasation was confined by omentum, which was adherent to the uterus and bladder, and by small gut, which was adherent to the right broad ligament and the pelvis generally. No embryo was detected, but chorionic villi were revealed by the microscope.

CASE 21. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 28, had been married for four years and had had one child and no miscarriage; the child was born three years previously. Four months ago the patient missed a period and became suspicious that she might be pregnant. Three months ago a hæmorrhagic discharge made its appearance, and this had continued more or less ever since. During these three months she had complained of pain in the left iliac region, but this had never been severe. The temperature was normal and the pulse numbered 84 per minute.

Operation.—The left tube, of about the size of one's

wrist, contained blood clot. It was adherent to the pelvic floor, and the uterus and small gut were adherent to it. No embryo was found, but chorionic villi were detected by the microscope.

CASE 22. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 27, had been married for five years and had had one child, the birth having taken place three years previously. She consulted me on account of a hæmorrhagic discharge which had persisted for ten weeks. This discharge came on with severe pain in the lower abdomen and when the patient had gone seven days over her usual time for being unwell. Since the hæmorrhage started she had complained more or less of general abdominal pain, but there had been no recurrence of the severe pain. The temperature when I saw her was 103° F. and the pulse numbered 96 per minute.

Operation.—There was free blood in the peritoneal cavity which had apparently oozed from the abdominal ostium of the right tube. This tube, especially towards its fimbriated extremity, was greatly distended with blood clot and it was adherent to the uterus and the pelvic floor. There was nothing to note about the pelvis which would account for the temperature. No embryo was found and no chorionic villi were detected. The embryonic mass had probably escaped into the abdominal cavity and was thus lost.

CASE 23. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 33, had been married for six years and had had no child and no miscarriage, but she gave a history presumptive of internal hæmorrhage due to an ectopic gestation twelve months after marriage. The history of the present illness was that three months ago she had menstruated as usual. When the time for the next menstruation came round there was merely "a show," but four days later a hæmorrhagic discharge made its appearance, and this discharge continued for four days. There was again no loss for nearly two months, when a piece, which evidently was decidual membrane, was expelled with a small quantity of blood, and this the patient affirmed was a miscarriage. Nine days before the membrane was expelled the patient had a severe attack of abdominal pain, and it was because of two recurrences of pain similar to the first that I was

asked to see her. The temperature was normal and the pulse numbered 105 per minute. The breasts were not characteristic of pregnancy but colostrum was easily obtained from both.

Operation.—There was a large quantity of blood clot in the pelvis confined by adhesions. The left tube contained blood clot and an embryo of nearly two months.

CASE 24. *Internal hæmorrhage consequent upon extra-uterine pregnancy coexisting with a super-induced uterine pregnancy.*—The patient, aged 27, had been married for seven years and had had two children and two miscarriages. The last child had been born nearly three years previously. Three months ago the patient, having gone seven days over her usual time for being unwell, began to lose, and she continued to lose for fourteen days, a little every day. The onset of this discharge was accompanied with severe abdominal pain. Since this attack of pain she had complained more or less of abdominal pain, but there had been complete amenorrhœa for nine weeks. The breasts were not characteristic of pregnancy and colostrum could not be obtained from them.

Operation.—The left tube contained about 5 or 6 ounces of recent blood clot. Chorionic villi were detected by the microscope. Four hours after the abdominal section a sac quite intact and containing an embryo of about two months was expelled *per vaginam* with a hæmorrhagic discharge.

Five months after the abdominal section and abortion this patient again became pregnant; the product of conception was located in the uterus, however, and was safely carried to maturity.

CASE 25. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 28, had been married for eight years and had had one child and one miscarriage. The miscarriage happened five years previously. Ten weeks ago the patient missed a period, and about midway between this and the next expected period she was suddenly seized with severe pain in the lower abdomen. Two days after this attack of pain she observed a hæmorrhagic discharge from the genitals, and since its appearance this discharge had persisted until now. Fourteen days ago a piece of membrane was expelled and the patient thought that she then miscarried. The temperature was 100° F., and the pulse numbered

96 per minute. There was nothing to note about the breasts.

Operation.—The right tube, which contained a quantity of blood clot, was very adherent in the pelvis. In the tube there was found an embryo of about six weeks.

CASE 26. *Internal hæmorrhage consequent upon extra-uterine pregnancy; cystic degeneration of the opposite ovary.*

—The patient, aged 28, had been married for nine years and had had no child and no miscarriage. Seven days before coming under my observation a hæmorrhagic discharge had ceased which had persisted for eleven weeks. This hæmorrhage started nine days after the cessation of what the patient considered a normal period. Ever since the hæmorrhagic discharge made its appearance she had complained more or less of abdominal pain. After she had been losing for nine weeks she had a severe attack of abdominal pain accompanied by diarrhœa and sickness. Altogether this attack was troublesome for about twelve hours.

Operation.—There was a large amount of blood clot confined by adhesions in the right pelvis. The right tube had been the seat of the gestation. The left ovary, which was of the size of a large orange, was cystic.

CASE 27. *Internal hæmorrhage consequent upon extra-uterine pregnancy occurring during lactation.*—The patient, aged 35, had been married for ten years and had had five children. The last child, born ten months previously, was still being suckled. Menstruation reappeared when the baby was 7 months old and it recurred the next month. When the baby was $8\frac{1}{2}$ months old — *i.e.*, fourteen days after the cessation of the second menstrual period since the confinement—the patient was suddenly seized with severe abdominal pain, and this she attributed to something she had partaken of in the way of food. She remarked at the same time the appearance of a hæmorrhagic discharge from the vagina. For six weeks practically this hæmorrhagic discharge had persisted, and during this time the patient had had two other attacks of severe abdominal pain. The temperature was normal and the pulse numbered 106 per minute.

Operation.—There was a large quantity of blood clot confined in the left pelvis by adhesions. The hæmorrhage had come from the left tube. No embryo was found, and the tube was so much damaged that it was hopeless to search for evidence of the chorion.

CASE 28. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 37, had been married for ten years and had had three children and no miscarriage. The last child was born five years ago. With the exception of "a slight show" three weeks ago there had been complete amenorrhœa for three months. Five weeks ago, and again three weeks ago, the patient was suddenly seized with severe pain, which lasted on each occasion about half an hour. Since the last attack of pain she had complained more or less of pain in the left iliac region. The breasts were not characteristic in appearance, but colostrum was readily obtained from them.

Operation.—The right tube, greatly distended, was separated from adhesions and removed intact. It contained blood clot and an embryo of about two months.

CASE 29. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 32, had been married for eleven years, and had had three children and two miscarriages; the last child was born four years previously. Five weeks ago, at what the patient considered was her proper time for coming unwell, a hæmorrhagic discharge made its appearance and it had continued ever since. During these five weeks she had complained slightly of pain in the left iliac region. The pulse and temperature were practically normal.

Operation.—There was a small quantity of free blood in the peritoneal cavity which had oozed from the left tube. The left tube was greatly distended with blood clot. The microscope revealed the presence of chorionic villi.

CASE 30 (a). *Internal hæmorrhage on two occasions consequent upon extra-uterine pregnancies.*—The patient, aged 34, had been married for twelve years, and had had no child and no miscarriage. For three months before coming under my observation the patient had been losing almost every day. Prior to this she had missed one menstrual period, and the hæmorrhagic discharge made its appearance about the time when the second period was due. When the hæmorrhagic discharge first made its appearance the patient had a severe attack of abdominal pain and fainted. Since the first attack of pain she had had two similar attacks. After she had been losing for fourteen days a large piece of membrane was stated to have been passed.

Operation.—There was a large quantity of blood clot

confined in the right pelvis by adhesions. The right tube contained blood clot and an embryo of about six weeks.

CASE 30 (b).—As the history dependent upon the second extra-uterine pregnancy, which occurred two years after the first, was materially different to that of the first I may here record it. On this occasion the patient had had continuously for one month a hæmorrhagic discharge. No period had been missed, and she was quite certain that the hæmorrhage appeared on the day she naturally expected to be unwell. Since the hæmorrhage first made its appearance she had complained of pain in the left iliac region, but she had never had any attack of pain like what she had had two years previously, and no membrane had been passed.

Second operation.—The left tube was adherent in the pelvis and was distended with blood clot. No embryo was found, but chorionic villi were detected by the microscope.

CASE 31. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 38, had been married for fourteen years and had had six children. The last child was born fifteen months previously, and was suckled for thirteen months. The menstrual discharge reappeared when the baby was 9 months old. For five weeks before the patient came under my observation she had been losing continuously. She had not missed a menstrual period, and the hæmorrhage, she affirmed, started fourteen days after her last normal period. When the hæmorrhage started she had a severe attack of abdominal pain and fainted. Two weeks after the first attack of pain she had a similar attack. The temperature was 100·4° F., and the pulse numbered 108 per minute.

Operation.—There was a large quantity of blood clot confined in the right pelvis by adhesions. The right tube contained blood clot. No embryo was detected but chorionic villi were revealed by the microscope.

CASE 32. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 36, had been married for fourteen years, and had had three children and three miscarriages. The last pregnancy was eight years previously. Seven weeks ago the patient, having gone three weeks over her usual time for being unwell, was suddenly seized with severe pain in the abdomen and fainted. When she recovered from this attack she

observed that she had come unwell and that she had passed two pieces of a fleshy character; these, no doubt, were decidual membrane. The patient herself considered that she had miscarried when these fleshy pieces were expelled, and she consulted me on account of the continuance of the hæmorrhage. The temperature and pulse were practically normal.

Operation.—There was a small amount of blood in the left pelvis confined by adhesions. The left tube was distended with blood clot, and towards its fimbriated extremity where the dilatation was most marked, an embryo of about six weeks was detected.

CASE 33. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, aged 34, had been married for sixteen years, and had had six children. The last child was born five years previously. Eight days before I was asked to see this patient she had had a severe attack of abdominal pain, and the history was that two months previously she had passed something which she considered a product of conception, and which no doubt was decidual membrane. As she had gone fourteen days over her usual time for being unwell when this piece was expelled she naturally looked upon it as a miscarriage. After passing this piece she lost continuously for three weeks; there was then amenorrhœa for nearly five weeks, when she was suddenly seized with severe abdominal pain, and this pain continued troublesome until the time of the operation.

Operation.—There was a large quantity of blood clot confined by adhesions in the left pelvis. The left tube was distended with blood clot. No embryo was detected, but the presence of chorionic villi was revealed by the microscope.

CASE 34. *Internal hæmorrhage consequent upon extra-uterine pregnancy.*—The patient, who was 37, had been married for seventeen years, and had had eleven children and two miscarriages. The last child was born sixteen months previously. For two months the patient had been losing every day. When this hæmorrhage started she considered that was her proper time for coming unwell. She was quite certain she had not missed a period. For four days before coming under my observation she had complained of rather severe pain in the abdomen, and especially in the left hypochondrium. The pulse and temperature were practically normal.

Operation.—There was a large quantity of blood confined

in the right pelvis by adhesions. The swelling had apparently been tubo-ovarian. The right tube was distended with crummy blood clot. No embryo was detected, but the microscope revealed towards the fimbriated extremity of the tube the presence of chorionic villi.

CASE 35. *Internal hæmorrhage consequent upon extra-uterine pregnancy; cystic transformation of the ovary of the vicariously functioning tube.*—The patient, aged 38, had been married for eighteen years, and had had eleven children. The last confinement, which was with twins, took place three and a half years ago. Seven weeks ago, and only four days after the cessation of what the patient considered a normal period, she stumbled over a broom and almost immediately thereafter she observed a hæmorrhagic discharge from the vagina and complained of pain in the right iliac region. For seven weeks the pain and hæmorrhage had persisted. The temperature and pulse were normal.

Operation.—The right tube and right ovary were fixed in the pelvis. The right tube was distended with crummy blood clot and the right ovary was completely transformed into three cysts. No embryo was detected.

At any time during the reproductive life of the woman the ovum after fertilization may fail to reach its proper habitat—the uterus—and may proceed to develop and may attain maturity in some structure outside this organ. This untoward phenomenon may occur in consequence of the first fruitful intercourse either immediately or some months or years after marriage. It may be observed after a more or less prolonged period of sterility, but we must not assume in any given case that this has been due to natural causes, since it often is found to have been intentional even in the case of a woman who has never before been pregnant. Impregnation may occur during lactation, and in such circumstances the product of conception may, as happened in Cases 17 and 27, proceed to develop in some structure outside the uterus. A uterine pregnancy may follow so rapidly upon an extra-uterine pregnancy that they may essentially coexist, as happened in Case 24.

As is naturally to be expected, the majority of the cases now recorded are cases in which the extra-uterine gestation was early and abruptly terminated by an extravasation of blood due to the rupture of one or more of the physio-

logically implicated maternal vessels. The cardinal symptoms in such circumstances, it will be remarked, were pain, especially recurring attacks of pain, and external hæmorrhage. The onset of these two symptoms is usually simultaneous, nor is this to be wondered at as they no doubt are due to the same cause, to the sudden extravasation of blood into the gestation cavity. These are not, however, pathognomonic symptoms, for the same symptoms may be observed in connection with other derangements of the tube and of the ovary. The pain is generally referred to the lower part of the abdomen, but occasionally it is referred to the left hypochondrium, and in such circumstances, especially when associated with symptoms of collapse, the clinician may be misled and may concentrate his attention upon the stomach. The external hæmorrhage, as in the case of a more or less incomplete uterine abortion, is commonly very persistent, and a scrutiny of the above cases will reveal the fact that its first appearance may or may not have been preceded by an unduly prolonged period of amenorrhœa.

In those cases in which the vessels of the vicariously functioning structure adapt themselves efficiently to the process of gestation pain may or may not be a concomitant of the pregnancy, but it is noteworthy that external hæmorrhage is in such circumstances infrequently observed, and when observed is usually trivial in amount, and I am convinced that this hæmorrhage comes invariably from the endometrium. The pain is sometimes very severe and is probably due to some derangement of those portions of gut adherent to the active sac.

The escape of decidual membrane from the uterus during the evolution of ectopic pregnancy is not so common as many authors would lead us to believe. Of the thirty-five cases—thirty-six really—it was observed in ten only. In some of the remainder it is impossible that its presence could have been overlooked; in Cases 3 and 4, to wit, where the amenorrhœa was complete during the nine active months of the pregnancy; in Case 8, where for some unknown reason curettage was resorted to about the seventh week of pregnancy; and again in Case 24, where a uterine pregnancy and a tubal abortion coexisted. The decidual membrane when extruded is not invariably accompanied by a hæmorrhagic discharge; the same thing is noted occasionally in cases of membranous dysmenorrhœa,

especially those anomalous cases in which a more or less complete cast of the uterus is expelled midway between the periods.

During the evolution of an extra-uterine pregnancy the breasts are seldom as characteristic in appearance as during the evolution of a uterine pregnancy, but in the former case colostrum can be obtained from them quite as early as in the latter. Morning sickness may be as marked in an extra-uterine as in a uterine pregnancy, and the movements of the foetus may be felt as early in the one case as in the other.

In none of the full-time cases of extra-uterine pregnancy that I have dealt with have the patients referred to pains occurring at or about the ninth month resembling those of labour.

I would here like to emphasize the fact that it is possible for an extra-uterine pregnancy to run its course of nine months without a symptom different from that of a normal pregnancy.

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