An Examination of

Some of the rarer Pathological Conditions Associated with Pregnancy.

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With two volumes of plates, and illustrative slides.
No new thing! That sentiment has been so oft repeated and none too frequent in these days. For indeed, and yet our ultimate knowledge of things is so scant and we have inadvertently allocated so much of what others have known to the shades of oblivion. That now and again we are fain to imagine and to pride ourselves in the belief that we may indeed even have made some discovery not unimportant.

I presume not so far although in various details concerning the subjects of this investigation the search for exact reports of similar cases has proved unavailing.

The remarks centre the subjects herein treated of - Pelvic Haemorrhage, Endemic Fistulation, and Ruptured Bladder - have for their basis three illustrative cases, for the first two of which I am indebted to the generosity of Dr. A. H. Treadwell Barrow, whose kindness and encouragement in their study have aided me much, while the third I have from Mr. J. Arthur Thomson, lecturer on Biology, who unselfishly handed over to me so
Valuable a Specimen.

The first presents to be a simple Pelvic Haematoccele, not dependent on the presence of Extra Ovarian Gestation. While of this opinion asserted so strongly first at present, but as the result of a diseased condition of the fallopian tubes, hemorrhagic in nature, and prepared and examined by a method not so far as I can find, previously applied to the investigation of this condition whose other literature is so extensive — namely that of serial frozen sections.

As to the second it proves to be an new variety of Extra Ovarian Gestation, but a well-established one, the sub-pulmonal abdominal of Hart, this main interest here centering round the diagnostic difficulties of its earlier life history, caused by this gestation sac having at a very early period occupied the pouch of Douglas directly behind the bladder.

The third is an example of a very rare case of extra uterine pouch in one of the lower animals — a rabbit, where the two uteri had spontaneously healed, the foetuses had become attached to the omentum by a slight...
peritonitis, inflammation and quite removed from any connection with the digestive organs, and when no trace of peritonitis or internal haemorrhage existed at the time the animal was killed for laboratory purposes— one of these cases which, if the examination be not a very careful one, lead to this mistaken belief that it has been an extra uterine gestation, a pathological condition of whose existence in the lower animals I can find no sufficiently authentic report.
I.

Pelvic Haematocèle.

Clinical History

The clinical history of the case is briefly as follows—

Mrs. Finch, aged 23, was admitted to Ward 28, Royal Infirmary, Edinburgh, on March 24th, 1874, complaining of pain at the left side and bleeding from the vagina, which had lasted for eight weeks continuously. She had no family alive although she had given birth to a seven months foetus eighteen months previously, nor had she had any miscarriages.

Menstrual history. She had been regular but for physiological amenorrhoea, until eight weeks before admission and had not had pain at her periods.

Amenorrhoea was transient, specially after menses, but this feature was more intense as regards the haemorrhage.

Vaginal Examination revealed a large rounded, fairly firm mass in the left lateral fornix, and behind in the posterior fornix.

There was considerable pain caused by vaginal
Examination, and also by pressure on the abdominal wall.

The diagnosis arrived at was, that an extraneous protrusion had ruptured into the broad ligament.

The sound was passed into the uterus and gave as the internal measurement of that organ 24 inches. The position of the uterus was towards the anterior abdominal wall.

On the 2nd April Dr. Bantam assisted by Dr. Berry Hart performed abdominal section and discovered a large blood sac which was thought to be of the left broad ligament. This was, however, being conjecture as must be so often the case in similar difficult and dangerous cases where the existing of parts from puerperal adhesions is considerable. The blood cyst extended to within two inches of the umbilicus. It was cleanse of its coats, and in the process no traces of foetal or placenta were observed. There were no distinct bleeding points as far as could be ascertained, and the cavity then cleaned out was packed with iodiform gauze. The puerperal cavity had not been opened into.
Patient did fair well for a few days but gradually sank, collapsed, and died on April 9th, six days after the operation.

Post Mortem Examination.

In view of making a more careful examination of the abdominal and pelvic disturbances than it is possible otherwise to do, and considering also the difficulty of determining what the precise condition was during the operation, it was considered advisable to remove the entire pelvis with its contents, and subject them thereafter to freezing. The Skin was accordingly reflected. The lumbar vertebrae were cut through and denudation of the lower limbs made at the hip joints. The whole pelvis was then carefully placed for three days in a freezing mixture. Thereafter the pelvis was divided in the vertical median plane by a fine saw, and a tracing made of the surface then exposed. A further series of parallel sections were cut and similarly treated, as seen in the various illustrative plates.

It is patent to all who have attempted by direction alone the elucidation of the
pathological anatomy of the pelvic organs, where there has been present any large
disturbing element, and who therefore
has adopted the sectional method that not
only is the latter indispensable, but the other
become mere adjutants.

The various methods have been adopted
here, namely frozen-sections, dissection,
and microscopic examination of small
parts of the various tissues.

The slabs instead of being allowed to thaw
before preserving in spirit have placed in a
salinated solution of imodium subminate
and suffixed while being thawed. Then
they were washed for twenty-four hours in a
stream of water, and afterwards hardened
in spirit.

On Plate I will be seen a diagrammatic
representation of the exact position of
those sectional planes into which the pelvic
was cut. They are set in number— a
vulvino-axial, three left lateral-sagittal,
and two right lateral-sagittal sections.
The arrangement of the plates is in order from left to right, and the right face of each slab is the one delineated throughout. In addition, Plate XIV shows the right side wall of the pelvis, and necessitating it is the left face which is presented. In this manner by merely examining the plates a more connected view of the construction is obtained.

The description is however in more advantageously followed and much simplified, if a commencement be made at the vertical median plane, and the others taken in order, first towards the left, then after returning at the centre and proceeding to the right side of the pelvis.

Not only has it been found necessary to note the appearance of one face of each slab, but where even this thickness of a saw cut reveals any material difference, that has been indicated.
Vertical-Urinal Section

Plate VIII. & IX.

The most marked feature of the section is a large, dark, blood-mass filling up and distending the pelvis behind the uterus, pressing that organ downwards and forwards. This blood clot extends slightly beyond the limit of the pelvis as indicated by taking the antero-posterior diameter from the promontory of the sacrum to the upper limit of the symphyseal pubis, and extends inferiorly to the level of the antero-posterior diameter of the outlet.

The vagina, cervix, bladder, and accompanying tissues seem to have sunk much as been pushed out of the pelvis through the pressure caused by the distension of the blood in its sac.

This however is not entirely due to the cavities mentioned as it is customary to find the uterine and accompanying organs descending somewhat when the pelvis is removed, the abdominal support having been taken away.

In front of the uterus is another cavity.
containing some dark blood clot which occupies the uterovaginal pouch and extends above the funnels. Beyond this, the blood clot had been cleared away at the operation and its place was taken by the packing of iodised toogage. Extending above this funnel, posteriorly is a dense tissue, while in front, in other dark im colours, being evidently organised blood clot.

The section has passed through the middle of the uterus and vagina so that there lies in the middle plane of the pelvis, but that they have descended very considerably evidenced by connecting the tip of the coccyx with the lower angle of the Symphysis pubis. The uterine is very pale in colour with only here and there a minute pink spot indicating a small blood vessel. There is no appearance of any membrane lining its interior, at least as far as one can make out at present, the interior is as pale as the substance of the uterine tissue.

The Bladder is somewhat club shaped and contains a small quantity of frozen urine. It also has descended out of the
pelvis is one half its extent.
The portion is seen at its lower end
compressed compressed between the sac and
the coccyx, reappearing again at the
sacrum of the posterior blood sac.
Above this lies the intestines.
Small small cystic cavities are included
in the solid tissue extending up from the
fundi of the urethra; these contain a
flocculent lymph-like material in their
cavities mingled with the frozen liquid
content.

The anatomical relations are more
accurately made out on the Spirit prepared
specimen.

The bony pelvis is trebled, the symphyses
pubis being cut through, and the sacrum
and coccyx in their extent, and also the
sacral canal. The sacrum and coccyx
form a deep marked and regular curve
too narrow to cover; the position and
direction of the symphyses pubis is also
abnormal lying almost horizontal—
although it is fairly parallel to the first
piece of the sacrum.
The pelvic measurements are:

- Of the Brim, Obstetrical Conjugate: 5 inches, 12.7 cm.
- Anatomical: 5 3/4 in.

- Of the Outlet: Antero-posterior: 3 7/8 in., 9.8 cm.

There is here then a marked dilatation of the pelvis with great narrowing anteriorly of the outlet and increase at the inlet. The abnormality of the sacral curve being greatest at the Coccyx which is directed inwards.

When the fist presents the appearance of having anything in its cavity, indeed the interior of the cavity is pale than if empty it has a horn-like uterus, while its internal surface is quite smooth. The cavity is closed as is also the part of the cervix which only contained a little mucous in its middle or dilated portion and the artor intine of the latter is well marked. No extension is patent, their transverse and of smooth surface.
The lie of the uterus is almost a horizontal one, and the direction of the canal of the uterus and the cervical canal is a continuous line nearly at right angles to the vaginal slit.

The internal measurement of the uterus is 2 3/4 inches (7 cm.) - note the clinical history the 2 3/4 difference being no doubt due to the fact that is an exact internal measurement of a normal uterus obtainable during life from the difficulty of accurately placing the finger bail on the sound at the 3rd extennum where it is not only possible but probable that the finger is inserted some little way into the open cervix.

The internal measurement of the canal of the uterus is 1 3/4 inches (4.4 cm).

The external measurement 3 1/2 in. (8.2 cm.)

The greatest anterior posterior diameter is 1 1/2 inches (3 cm.).

In consistence both uterus and cervix are remarkably firm.

The vagina lies sitting beyond the anus.
Furthest diameter of the outlet. It is a slit of which the edges are well marked and is comparatively short being only 2½ inches in length.

In the plate the left labium minus is seen intact.

Bladder is comparatively closed and having had a small quantity of urine at its lower end. As before mentioned it is thus rounded club-shaped and its extreme length is being 2½ inches.

The sub-pubic fat is drawn down to the lower angle of the symphysis pubis thus showing how considerable is the limit of displacement. The urethra does not appear in this case of the section.

Rectum when it lies opposite the coecox is cut into tangentially at a bend just before swinging in the anal canal. It is greatly compressed and simply. The same is cut into but the section does not pass through the subicure anal canal. Again the large bend at the sigmoid flexure is seen crossing over and coming
the upper boundary of the posterior blood sac.
It passes directly through the dura.
This ligamentum is intimately connected
with the posterior and upper part of the fascia
latae by means of fatty and fibrous tissue.
A dense mass - formed partly by the
appendicular ligamentum, and the organized
fascia and blood clot yet distinguishable
in that region. In its midst are some
small cysts which were occupied by a

green yellow liquid and now contain
a little flocculent lymph.
The cells of small intestine which were
attached in the frozen condition to the
anterior and upper surface of this
structure are not represented in
Plate IX having become separated,
their rest having been formed very
without adhesions.

Blood Sac

Anterior is apparently the smaller but
this is in part due to the Colon
having been emptied at the time
of operation of a very large amount of coagulated blood. Its boundaries are
inferiorly the inter-uterine pouch, which is yet filled with blood,
anteriorly the abdominal wall,
posteriorly the tissues already mentioned,
along with intestinal coils,
and superiorly but not indicated is this
vertical mesial section the omentum
adherent to the anterior abdominal wall
The blood in it was coagulated but not
forming organized, and mostly Escaped
on thawing. There are a few very slight
adhesions passing across the utero-uterine
pouch.
The abdominal incision extended
downwards to within 1½ inches of the
Symphysis pubis, and this communicated
into the anterior sac.

Porterin a large rounded sac filling
up almost the entire pelvis, displacing
the viscera downwards from the pelvis,
and raising the sigmoid flexure and
small intestinal coils above.
It's boundaries are

inferior the uterine, cervix, and rectum,
superior the rectum and pelvic cellular tissue,
right and left the bladder and ureters,
and anteriorly the uterus and uterine fundus.

The cavity is now simply the blood having
been long frozen in a liquid state,
and not at all organized. The sac
wall appears smooth and regular,
except at the anteriors and upper limit
as if it were a peritoneal sac that had
been filled with blood.

Behind the uterus lies a long narrow
cavity with a wall apparently distinct
from the uterus. There is also an
elargated cavity in the first cellular
layer behind the sac at the curve of the
sacrum.

The greatest length of the blood sac
is 3 7/8 inches (9.2 cm), and its
greatest breadth anteriorly 2 3/4 inches
7 cm.

From this section it is evident that a
tissue haematocele is this anterius sac confined
By mental adhesion to the abdominal wall
but it is yet doubtful whether the posterior
one be a haematoma or haematoma. This
it made evident in other sections without
this aid of microscopic examination.

On the opposite face made by this section
the anterior is thrown out on its entire
length and measuring 1½ inches.

First-Left-Lateral-Sagittal Section.
Plate VI. VII.

This section passes through the Pubic bone
3½ inches to the left of the middle line
and through the left foramina of the Sacrum
so that four pieces of the Sacrum are seen
and one of the Coccyx.

The obstetrical conjugate diameter
here is 5 inches and the anatomical
5½ inches.

Uterus and Cervix are cut Excentrically
no part of the Cavity being opened into.
Its tissue has a rougher aspect and more minute vascular points appear. The side walls of the vagina in been covered with veins. The anterior and posterior fornices are fairly distinct.

Bladder is again seen in a collapsed condition as a long slit with slight dilatation at the lower end. Its walls are thick and well-formed. At the lower angle the urethra is been passing through the muscular tissue.

The length of its canaliculus is 3 1/2 inches. Between the above vesical puncta and the upper end of the bladder, in this connecting tissue there a large blood vessel is cut across. There are also numerous vascular sinuses surrounding the lower end between bladder and vagina.

Again these structures are seen to be below the pelvic cavity due to the pressure effects of the blood diffusion.

No part of this section is visible beyond the
middle line on the left side, it having been displaced laterally to the right.
The beginning of the fatty tissue of the ischial-rectal foramen is present.
Sigmoid flexure again appears cut transversely as it is framing over the posterior sac.

The posterior blood effusion appears to consist of a dark, thick, and purulent accumulation. It extends above to the brim of the pelvis, a line drawn from the upper border of the pubic bone to the sacral promontory just touching the sac.

In front of the uterus, the blood clot has a similar arrangement to the contracted condition of tissues, subsequent to its having been displaced, and still contains part of the indigestible sloughing.
Between these two and somewhat above the fundus uteri is a dark mass oval in shape; evidently also blood clot.
Several small cysts the largest being more than one inch long and containing
a turbid yellow frozen liquid on its cut surface. Over this lies on the lower of the posterior sac just behind the sigmoid flexure. Another and larger one situated behind the upper part of this utricle and around this latter are several smaller cysts all containing apparently the same fluid.

After hardening and direction—

The blood which was liquid has disappeared from both anterior and posterior sacs but for a little fibrous adhering to the anterior sac walls.

There is an intermediate fibrous connective solid, non-detachable, organized. It is separated from anterior and posterior sacs by some dense white tissue.

The posterior sac is the main interest here and it may be well to note with regard to the appearances presented of it, in this and the remaining plates, that when emptied of its blood the sac was more or less glutinous, and its sections of it present a different
appearance when bared altogether from one side, similar to what actions of a brown-jack would do; one side will present merely the form of a ring, the other be cap-shaped.

On the anterior wall of the posterior sac one seem projecting into the cavity certain ovoidicte folds, then one the free side of the left Fallopian tube which opens directly into the front of the blood sac and which contains blood in its lumen.

Between the ileum and that portion of the sac wall is seen a large, soft cystic cavity previously mentioned and now only containing some flocculent lymph being evidently an included portion of vitellum. The band of tissue between this and the blood sac is part of the broad ligament folded round the back of the ileum.

One of the coils of small intestine is seen still attached to that tissue over the anterior wall of the posterior blood sac, which extends between
Sigmoid flexure and uterine. It is
at hight- by a slight lymph Exudation.

The common ileo-colic and vein
are cut transverse, and lie in
front of the cartilage below the last
limbar vertebra.

The other side of this slab shows in
addition to the above description
immediately behind the uterum and on
the same level - the left ovary with
a corpus luricum in section. Below
the ovary is a round sac measuring
3 x 4 inch, which communical is
that behind the uterus and
contains the same peritoneal lymph.

The dark solid corporulum is replaced
by a solid white tissue containing
numeorous small cysts as can be
seen by a comparison of this with
Plate V.

The uterus is cut across along with
the ileo vessels at the level of the
His proximal line, and again appears in the tissue at the lower angle of the posterior sac. This function has not been interfered with at least there is no dilatation, and there is no history of urinary complications.

Second left lateral-sagittal section.

Plate IV. & V.

This section passes through the pubic rami and the sacral wing just touching the ilium.

The ilium does not extend so far to the left as to be present in this view. The iliac spine of this side is seen cut across at various places, low down just beyond its exsert from the ilium, again high up in the anterior sac at which point it appears expanded, and finally almost at the lumbar spine.

The left ovary lies on the floor of the pelvis.
With the round ligament passing along the femur behind. In the ovary are one or two small cysts and one old corpus luteum.

The sigmoid fossa is again divided transversely.

Various vessels are cut, namely, the iliac artery, vein, and the internal iliac.

The uterus is divided at two places, one beside the iliac vessels below the broad muscle and the other beneath the posterior blood sac in the connective tissue there.

After throwing the posterior sac seems a hollow canal with some bands passing across its wall constricting them, and the ovary forms a bulging at its lower end.

The fallopian tube was dissected as far as possible from the uterus toward the front where it became lost in the fimbriae after which it was again traced from the fimbriated opening into the posterior sac.
backwards into the capsule. The point of
regnum seems to be about 2½ inches from
the anterior.

The anterior sac extends round
almost to the sacrum and, here, was
filled with coagula and fibrin.

The Tauerium is the only one small
white and contracted.

From the Tauerium passes a thick band
behind the posterior blood sac to the side
of the pelvis, probably the suspensory-
pubic ligament. This is the band
seen radiating from the Tauerium
through the sac and contracting its cavity.

Omentum is adherent to the anterior
sac wall, which has not been cut into
here in the abdominal incision.

The heath section has just opened the
posterior sac wall so that a small
opening is seen through it.
Third Left Satanic Sacral Section

Plates II. & III.

The section has passed through the bladder at three points, and through the same that synchondrosis, so that no part of the sacrum is visible but the ilium alone. It has gone beyond the limit of the true pubic cavity into the fibro-collagenous tissue and has grazed the anterior sacral wall which is of dark color as a pale field as seen in Plate III.

The Anterior blood sac is confined here by the abdominal fasciae in front and solid tissue around, except above the true inferior portion is cut again.

Behind the Anterior sac which contains a dark purplish blood clot is a pinkish tissue in which may be seen the plications and crests of the mucous membrane of the Pyloric part where the wall has been just touched or a bend here.

On drawing, the blood again
dissolved out of the anterio r sac, leaving a small cavity confined in all directions. The cavity is demarcated at two points, and its direction is indicated as it progresses through the cellular tissue by a little as shown on Plate III.

The sigmoid flexure of the colon just here is attached to the wall of the pelvis about the level of the pelvic brim and leaves up on the left iliac fora attached by the meso-colon. There is no connection between the cavity of the iliac fora and the anterio r sac just described.

First Right Latuae-Sigmoid Section.

Plate X. V. XI.

We return to the middle of the Pelvis again.

This section presents an apparently greater complexity of parts than the previous. This is to the main due
to the number of cystic spaces formed by
two approximated perineal surfaces.

The uterus, bladder, vagina are
all present; the anal canal is cut
into. Three distinct sections of Rectum
are seen as it has been pushed out
of its natural course by the blood
dissemination.

There is the same large sac of dark
frozen blood but almost constricted
about its middle into two sheets
at either arm of this constriction is
the section and sigmoid flexure which
is more deeply situated in the pelvis
than was the case in the transverse
section. The Rectum is again seen
about an inch lower down having
made a bend here through the
thickness of the slate.

The Bladder contains a small quantity
of urine frozen; it is still deeply
situated in the Pelvis being evidently
compressed. There is some sub-
pubic fat at the lower end and
behind the pubic bone—displaceable.
tissues.

The uterus has been cut through some distance from the external angle and the section has passed through the junction of broad ligament with cervix, so that the tissue here now presents a more vascular appearance.

The utero-vesical pouch forming the lower end of the anterior sac is well marked and contained frozen blood apparently not coagulated, but bipher up over the peritoneum becoming so.

There is the same dense tissue extending from the back of the uterus and in that a line of cysts containing clear yellow lymph. There are others of these at the back of the uterus, and near beside the section.

In Plate XIV are also seen the coils of small intestine, and the vermiform appendix and transverse. The omentum is attached to the upper and anterior wall of the anterior blood sac and forms the wall...
above the point of operative incision.

The walls of the posterior sac on being cleared of blood appear quite smooth, but the surface of the veins is roughened.

Second Right Latissimus-Dorsi Section.

Plates XII. & XIII.

This section reveals less of the blood sac, none of the normal structures, and considerably more fatty tissue inside the pelvis than any of the preceding.

It passes through the sacrum avoiding the ilium altogether, and also through the pubic rami. As before mentioned the blood sac increases in dimensions towards the other side or central aspect of the whole.

The posterior sac is represented by three small dark purple areas where the section has passed tangentially through the sac little more than grazing
its wall. This is almost surrounded by fatty tissue derived from the appendices epiploicae, except posteriorly where the rectum is in direct contact with the sac wall. The continuation of the rectum is again seen cut off by a thin membrane in front of the upper portion of the sac.

The anterior blood sac is well defined and contains dark frozen blood with an admixture of fibrin. The upper wall of this is formed by the peritoneal fat, the posterior wall is also fatty and just behind this is a round cyst with frozen contents similar to those in other already described. At the lower end of this anterior blood sac and just behind it is the right broad ligament at its junction with the uterine, attached to the cellular tissue of the pelvis beneath.

Posterior to this is a loose vascular tissue just above the terminal of the hymen.
The ovary is a considerable feature in this section being cut nearly longitudinally. It is pale in colour and contains one not very recent corpus luteum besides numerous very small ovarian cysts. It lies in a large sac filled with a yellow liquid, yellow in colour, having the same appearance of turbidity previously remarked on. Emerging from behind the ovary and passing backwards is the broad ligament with the Fallopian tube cut obliquely in its progress.

The ureter and small vessels appear at the lower border of the Os sac, the ureter a second time in the cellular tissue of the pelvic floor.

On thawing —

The anterior wall of the round blood sac is intact throughout the thickness of the slab, not having been opened into. This is an apparent formed of subcutaneous fat. There is a considerable quantity of liminary...
deposit at the upper angle and that
thick is distinctly rough and
sharply defined. In the mass there is one best recog-
nized corpus luteum and another, a little older
one. The cellular tissue around this
lower front of the fallopian canal is remarkably
thick but not dense and contains
numerous blood spaces.

Behind and around this mass is
a considerable bunch of the peritoneum
in which is seen the broad ligament
within the fallopian tube.

On either side of this ligament which
divides the cavity into strands are
strands and small collections of
serous lymph.

The fallopian tube passes downwards
from the womb where it is seen an
section almost to the lower limit of
the mass again appearing above this
mass and beneath the small cyst,
on its way to the uterine cornu, as
indicated by the triad.

It has divided once and fallen down-
wards behind and below this mass.
The rectum passes over the posterior sac wall, as can be seen by referring to Plate XIV, to become the sigmoid flexure which at the part here drawn is passing upwards then downwards and forwards as it passes through the Wall.

The vermiform appendix is present beside the intestine and in front of the Psoas muscle.

The lower part of the Omentum is changed in colour, from deep pink merging into the normal yellow of the fat tissue.

Right Side Wall of the Pelvis

Plate XIV.

Of necessity the left face is the one represented here.

The structure indicated will be seen to be the same as in Plate XIII, there only being the difference of a saw-cut.
The Rectum is then not opened into but having made the way of the posterior blood-vase overlaying it as indicated in describing the previous sections. This part of the Rectum is only united to the wall of the Pelvis at its lower and posterior end.

A short distance below this is a band of tissue passing to the posterior wall of the Pelvis from the upper border of the Urethra - the broad ligament - having the remains of the Fallopian tube, also the suspensory pubic ligament. The external end of the Fallopian tube lies free in this space.

The greater breadth of the Urethra lies on this side the section and is placed down to the pelvic wall chiefly at its posterior end by peritubal adhesions.

The anterior sac still persists here extending at its deepest part to half an inch, while the Omentum is attached to its upper end, indeed seems to form its upper and lateral
wall, dipping down behind the sac, and becoming attached to the peritoneum by adhesions firm and inextricable. Potentially the ovary contains a large cyst.

The Pelvis Considered as a Whole.

The bones are arranged together, thus rendering the pelvis almost complete again, and the general aspect of parts noted.

As regards the three fossae and the false pelvis, the peritoneum is very evident covering these surfaces, and as such reaches to the level of a line uniting the anterior inferior iliac spines.

A large swelling fills up the true pelvis reaching to the level of the promontory of the sacrum behind.

The vault of this is composed of the sigmoid flexure of the colon.
which is flattened out and passes directly over it, one or two coils of intestine which are adherent by a slight peritoneal evagination, and by a new-formed tissue passing between the tendinous ligament and fallopian tube in front and the Colon behind. In this tissue are manifest the fat lobules of the appendices epiploicae. The vault is rounded, dipping down at both flanks to the pelvic brim.

Actually the sac has extended into the left side of the pelvis completely displacing the various organs; into the right side it has not advanced quite so far being bounded by the adhesion of appendicles epiploicae of the upper part of the rectum to the uterus and broad ligament.

Behind this on the right side in which is a space noted on plates XIII and XIV in which lie the right ovary and the free fimbriated end of the fallopian tube, displaced, but free in a sac of peritoneal effusion.
There has been much displacement of
the pelvic viscera - uterus, bladder,
vagina, and rectum, are being
depressed by the downward bulging of
the blood sac.

The rectum has undergone most change
but this is not remarkable seeing
how variable is its position in the male
and female pelvis when there has
been no disturbing influence and
how easily it is displaced to the right
even by an enlarged uterus. Indeed,
I have made numerous post-mortem
examinations immediately after
parturition since observing this
occurrence, and in all save one
has the rectum been displaced to the
right almost at its exit, while
the sigmoid flexure has formed a wide
curve. Evidently, having passed
round near the fundus of the three
pregnant uteri.

In the present case the sigmoid
flexure is round lying on front of the
rectum on the left side (Sah A), it
thereafter comes immediately on the surface of the sac in Slab B. C. O.
In it it descends suddenly being drawn down by a band uniting it to the outlet of the pelvis, which band can be seen constricting the sac. In it it again suddenly rises to the former level, curves round, and descends along the right side wall of the pelvis as rectum, becoming much compressed by the sac against the pelvic wall.

The tube and ovaries have also been much contorted, on the left side especially, so far as it is possible to be made out. It is true that the haemorrhage has had its source.

The ovary is closely apposed to the pelvic floor, this being in front due to the position of the bladder, and broad ligament which latter is seen to have completely round the ovary, starting at the uterine cornu. The Fallopian tube necessarily follows the same course but is situated around
and above the many which we shall see in different in the case of this right side. There as Plate XXX the uterine comes in fascicula into just at its commencement, the ovary, and a cross section of the anterior portion of the ampulla are seen lying at the same level as order from before backwards, so that the tube has been completely twisted out of its normal position. It is lying vertically beneath the ovary to reach the uterus.

The dimensions of the Anterior Blood Sac are not so well determined. It has filled up the Para-terical pouch, which we here observe is very shallow indeed, and is so not only in front of the veins. This may have had some part in causing the veins and arteries to lie so close to the pelvis. There is no pouch of Retzius caused by the so much sinking of the bladder. We learn also from the Physical Examination and during the operation that it had reached when the patient was in the
Remembrant picture to within two inches of the umbilicus.

The probable cause of the haemorrhage, so far as the naked eye examination can determine, is, I am inclined to believe, that there had been some disease of the left, Fallopians tube, giving rise to inflammatory changes around its ampulla, accompanied by small haemorrhages; that there led to adhesions being formed between it, the fundus uteri, the sigmoid flexure especially the appendicular epiploica, and one or two coils of small intestine. Then there followed a true haemorrhage into the inflammatory and exudation tissue shown in the large clot there; next it would appear there came the abdominal bleeding into the pouch in front of the uteri, and that this not being free to pour into the true pelvis owing to the adhesions already formed, but remaining in contact with the abdominal wall was not mingled with intestines to any degree but
displacing them and causing some increase of inflammation between omentum and abdominal wall produced a firm union of these two surfaces. No doubt at the same time there had been a little oozing of blood from the patent fractured end of the tube causing some petechiæ around the back of the ileum; this however must have been slight as the indications point to this posterior blood effusion having been a sudden one and subsequent to the others as no change had taken place in its liquid blood.

The adhesions performed prevented its escape higher into the abdomen and the vessel is shown in the marked bulging of the pelvic floor and depression of the various structures there.

This posterior blood effusion is also interesting from its other aspect than the mere production of a haematoma. It had been present before operation as shown by passage of sound indicating return to the jejunum, and also by the tumour in Douglas pouch.
and at the time of post-mortem examination, death having taken place six days subsequent to the operation, there are no changes in the blood but even coagulation. I shall refer to this subsequently in noticing Dr. Hunter's experiments on blood in the peritoneal cavity.

Blood had also escaped from the uterine end of the tube accounting for the right weeks haemorrhage, it being improbable that any or as much little of this could come from the uterus, the smooth flat surface of the interior of that body giving no indication that it had been the source of disturbance.

We have in this study a complete representation by sectional anatomy of the characters of a Pelvic Haematomata, and the disturbances produced by it in the pelvic visera along with its probable course and history, such as has not been, in a similar manner as stated, hitherto accomplished for
as my investigations have led me to

discuss.

It only remains to consider the
microscopic examination and discover
of feasible the primary cause of the
haemorrhage, of which there is strong
evidence that it originated in the
left Fallopian tube.

**Microscopic Anatomy.**

From the critical mental plane still
various portions of tissue were
removed. These having been previously
fixed in Carnosine Saltpetre and
hardened, were now put through
the Paraffin process.

Two pieces were taken from the back of
the uterus.

One from the more solid tissue at its
fundus.

A horizontal portion of the interior
Intima wall showing half the circumference.

From Slab C, several pieces of the left tube and the inflammatory tissues surrounding one from near the friable ulcerate extremity of the tube.
Another through the posterior sac wall.

From Slab B, two portions were taken through the tissue immediately adjoining the ruptured tube.

From the other side of Slab E a small bit of tissue first behind the uterus.

A selection of these are represented on Plate XV to XIX.

In Plate XV we have a portion of the tube which shows the most normal in appearance of all the different portions examined. The h Dunn of the
tube is occupied to a much greater extent than is shown here by diffused blood, and at some points that lumen is completely filled.

The mucosa shows little tissue change; the epithelium is normal columnar ciliated, and is here wholly intact though some small portions have been separated by the internal haemorrhage. The connective tissue is normal in structure but appears very small. In amount surrounding the tube generally, the mucosa appearing to be almost applied to the muscular coat directly.

The layer of muscular tissue here is very thin and not intersected to any degree by haemorrhages although these occur plentifully just beyond this layer, as also do vascular spaces of all sizes.

There comes a hyaline looking tissue refractile to light, and loose, having many small spaces containing blood. Beyond is the Connective tissue of
the presalpinx which shows not change the cellular elements preponderating.
It is remarkably vascular and contains some larger spaces filled with old
effused blood of which there only remains a collection of deeply stained leucocytes
with here and there clots of fibrin.
Outside this cloud not represented in the plate is mainly fibrin with
leucocytes, and connective tissue cells forming the wall of the blood sac
proper.
In this there we can discern chiefly a salpingitis whose chief
character is the presence of blood-
spaces filled with old or recent
haemorrhage, and an increase of
the vascular elements.

Another preparation taken near this
one and not figured shows much
change in the muscular tissue which
is arranged around the tube in the
usual circumferential manner, but
at one side is greatly increased in
Extent, and is there divided up by haemorrhages with numerous arterioles and capillaries giving somewhat of the appearances presented by a meso-
osalpingitis, and again chiefly haemorrhagic.

Plate XIV, is from a portion of the tube near the ampulla at its distal end, and is more characteristic of the entire pathological condition than any description can be.

The plications and folds of the mucous membrane are split up internally by capillary haemorrhage and edema. These are evidently due to the first place to the distension of the capillaries.

The connective tissue is not altered in character but has been much pressed aside, and lining columnar epithelium covers over large areas.

Beneath the mucosa where connective tissue is exceedingly slight, and in the inner muscular layer are
numerous haemorrhages and great
distension of capillaries deserving a
high degree of vascularity. The
muscular portion of the tube was at
least in its middle portion is not
much interfered with although
the connective tissue preponderates
slightly more than is usual. The
superficial layer of muscular
tissue which is increased greatly in
amount shows much marked change.

It has been intersected all round by
large haemorrhages of some
duration. These show no special
envelope other than displaced muscular
and connective tissue and contain
dense masses of deeply stained
lymphocytes and connective tissue
capsules. Scattered are many
and smaller haemorrhages of a
more recent date.

The whole aspect of this section
is indicative of more than mere
congestion and congestion following
on an inflammatory attack. The
haemorrhagic character almost appears a condition per se.

In Plate XVII. I have shown one of the dendritic folds of the mucosa in what is practically the innervated extremity just within the tube. Diagonal lines have been drawn across from one surface to the other to indicate the extent of displacement, the splitting of the connective tissue by old and recent haemorrhages, with some of the small arteries almost entangled among their connective tissue support.

In small parts, the surface is denuded of its epithelium and at some of these the blood can be seen making its way into the lumen of the tube.

One of the simpler folds of mucous membrane is shown in Plate XVIII under a high power view.

On the under surface the epithelium is intact; it is closely columnar and ciliated, and its nuclei are distinct.
On the upper surface only a patch of epithelium remains in situ and on either side the surface is demarcated. The connective tissue is unchanged; its nuclei lie more or less parallel to the length of the mucous folds as do not due to the internal pressure.

The internal capillary is enormously denuded but not impaired, its endothelial lining being seen intact.

In these and all the sections examined, I have been unable to find any indications which would lead me to suspect that there had been any extra-intestinal retention even of a remote date. There is no trace either in the epithelium or in the connective tissue beneath, nor yet around the vessels of the connective tissue to indicate formation of decidual cells nor are there any traces of villous growth.

The condition seems to be purely an inflammatory or rather degenerative
degenerative affection of the Fallopian tube by which there has resulted not so much increase of any of the cellular elements as outpouring of blood into the connective tissue spaces and proliferation of the vascular elements, with great sub-mucous effusion. This motile state is sufficient of itself to account for all the phenomena of the illness, and production of the haematocoele. The uterine haemorrhage which continued uninterruptedly for eight weeks was simply the escape by the tube into the cavity of the uterus of the congestion of blood in the mucous membrane; while the posterior blood sac was filled by flow backward, through the triumviral end, the anterior being caused by rupture of the tube, and also by bleeding from the peritoneal inflammatory tissue.

Plate XIX is a section through the
Mucous membrane of the uterus.

These sections of uterine tissue are rather indistinct from a thickness of tissue which I was unable to avoid, having had to cut them with a small hand microtome.

The mucosa is very deeply stained but its connective tissue cells do not seem to be altered in size or character. The gland spaces are well marked though not numerous and are lined by columnar epithelium; many of them are cut transversely or obliquely, the section having been made horizontally. There are a few well marked capillary spaces, and one or two minute haemorrhages. The internal surface has no lining epithelium.

The posterior sac wall taken from the floor of the pelvis shows little change in structure and small evidence of inflammatory reaction resulting from the effused blood.
There is perhaps a greater apparent density of connective tissue and muscular fibre due to the pressure imposed on it.

Behind the uterus near the fundus, this tissue shows a band of connective tissue almost non-cellular, and a thickish layer of fat next the uterine tissue, with some resulting peritonitis, which has changed the character of this peri-uterine tissue.

**General Remarks.**

The literature of pelvic haematocèle is vast, but the literature of its exact pathology is scant enough. There has been much labour spent on the subject from the time of Nélaton who first gave it a pathological place to Voisin,
Sellar, McCulloch, Barnes, Schröder, Oldham, and Bandt.

We are here not so much concerned with its symptoms and clinical history generally, but with the problem of its causation, and its pathological results.

Many of the causes which have been assigned as producing this condition. They have been gradually reduced in this period of simplification to one human state — extrauterine pregnancy. There is little doubt that this reduction is too absolute.

It is perhaps not an infrequent occurrence that blood is in minute quantities forced into the maternal canals, but when that canal is perfectly healthy it soon becomes absorbed by great part through the membranes of the diaphragm as Hunter's experiment demonstrated.

Should however the serous membrane be altered or destroyed by inflammatory
Changes from a small haemorrhage is not readily absorbed, and, if
the bleeding be profuse and pure
intra-peritoneal, either of two results
ensue. The blood becomes confined
by adhesions the result of a
previous chronic inflammatory attack,
or there is a pure intra-abdominal
bleeding, which can only end, so far
as I can see, in death.

Further, after the outpouring of such
blood, and the formation of clot the
peritoneum tends to throw out, from
this irritation so produced, false
membranes to invest this foreign
tissue.

The usual origin of large blood
extravasations is no doubt a
precedent extra-uterine generation
either at primary rupture or secondary,
or again of an old ectopic of which
this name has long since died, and
been absorbed but in which the sac
wall has continued to undergo
destructive changes leading to its rupture.
This latter, however, is more closely allied in its progress to that class of cases of which I believe the one just examined is an example. The development is insidious and progressive and there is undoubtedly a PHTHALOMA with some previous diseased condition of the tube leading to a change in the serous surface of the pelvic peritoneum and part of it, by which the latter, small quantities of blood so poured out are prevented from disappearing by absorption and are gradually reabsorbed.

The fact is we must here in these slow bleedings and that is the impermeability of the peritoneum produced either by the preceding inflammation or caused by the largeness of the blood effusion producing by its prolonged contact changes in the serous membrane.

In addition to the afore mentioned causes we may have, and these
have all been cited — rupture of the ovarian venous pouches in the broad ligament, though this is more likely to produce the extra-peritoneal haematoma. Such cases have been noted and described by Ottinio and Pozzi.

Said one of opinion that every haematoma was caused by ovulation — that is, extra-uterine — whether there was fecundation or no.

Reflex through the tubes of menstrual blood is an old theory which formerly had many supporters — Bevers and Jouffle, Haller or among the number, whilst Sterin considered that in membranous dysmenorrhea we have a blocking up of the uterine orifices and outlet so that blood is forced by the uterine contractions backwards along the tubes to the peritoneal cavity and we believe it is as possible for menstrual blood to pass as for intra-uterine injections, though...
These latter are usually made at a time when the uterine orifices of the tubes are naturally more patent.

Bland Sutton, however, considers that all cases so called are in reality tubal abortions, there being only slight haemorrhage from the uterus. This seems to me more another of the tendencies to無論 previous opinion, and the assumption as from one or that he decries.

Ovarian Apoplexy has sometimes produced this condition. I have examined an enlarged ovary in which the dots macroscopic disturbance was a haemorrhage the size of a small orange which was centrally placed. Had it been near the periphery the result would have been doubtless haematocele instead of apoplexy.

Fissures of false membranes produced by pyelitis has been exaggerated in its responsibility for causing
haemorrhage and this too by Bennett.

Rossi sums up his arbitrary of this
condition in the following words:

"We may assert that by far the
greater number of cases originate in
some tubal lesion, haemorrhagic
salpingitis, with peri-salpingitis in
the case of haematoocele whose course
is progressive, and very moderate;
foetal cyst in the case of my abundant
haematoocele appearing suddenly, or
to use Barnes' expression, 'cataclysmic.'"

Subsequent Changes and
Segulæ.

Pain in the blood other than in the
posterior cul-de-sac — the pouch of
Douglas. This may occasionally be
obliterated by a retroflex uterus
with adherences, so that the blood is
forced into the utero-cervical pouch
and pouch of Régisins, as described
by Braun and Schröder.
The blood is at first fluid and movable
due to the peritonitic adhesions not
got having formed a firm encasement
from the album becomes dark and
coagula may form with white
fibrous lymph at the periphery
of the clot. It is however noteworthy
that a much longer time may elapse
than is commonly supposed during
which coagulated blood may remain
unclotted and unchanged in the
peritoneal cavity. Here we had a
hematemesis at least six days prior
to death which on examination
revealed scarce any trace even
of clotting.

Subsequently muscular disintegration
set in, and this may go on to
suppuration, discharging in one or
other direction, and continuing to
do so as a chronic abscess. These
septic influences are derived either
by way of the veins and splanchnic
tubes, a rare prototype from the
rectum, being in most cases applied
immediately to the sac, and this channel as is well known being replete with micro-organisms capable of penetrating its wall, and predominantly so when it has been the subject of an inflammatory attack, chief among them being the bacterium communis coli, as I had sufficient cause to observe in some cases of septic peritonitis.

Peritonitis following immediately as the result of the outpouring of blood is extremely rare, so much so that some among whom are Bemuly and Joubert, Parry &c declared that it seldom or never occurred. Here there was scarcely a trace of it and just sufficient of plastic adhesions to form a sac wall and confine the haemorrhage.

In cases not ending fatally it is chiefly by absorption the physician hopes to secure recovery, and during this process he will often note the
peculiar jaundiced appearance of the
patient caused by the blood pigments
which are being absorbed.

Interesting experiments have been
performed with intent to throw light
on this character of the peritonitis as
an agent of absorption—those of
depopo regarding the absorptive
power on embryonic tissues—by
placing young embryos in the
peritoneal cavities of other animals,
and William Hunter's Experiments
on the absorption of fresh blood.

Hunter found regarding blood free
in the peritoneal cavities that a large
proportion of the red corpuscles were
borne by the peristaltic movements
of the intestines toward the diaphragm
through whose lymphatics they disappeared.
This goes on much rapidly at the
first and continues for a matter of
twenty-four hours or longer.

"A slight inflammatory reaction
always occurs for a few hours after the
injection, resulting in an effusion of
Serum containing leuco-eratic, more or less marked according to the amount of irritation. This effusion is, however, of short duration, lasting generally in the course of the first few hours, after which the effused serum, along with that of the injected blood, becomes reabsorbed into the circulation. The irritation produced by the presence of clot is probably of more consequence as it causes no longer lasting. The resulting inflammation, however, is generally localized. In no instance, at least in these experiments, was it such as in any way to endanger life.

As regards the female pelvis, upon he consider that in haematoma we have all the conditions necessary for coagulation in course and that consequently the fate of such blood coagulates in a local one. Whereas in intra-peritoneal extravasation it is coagulation may then be more or less delayed, and its absorption partial.
facilitated by the special action of the diaphragm in promoting abortion.

Several interesting points are suggested by the microscopic characters, chiefly that of the congestion of the mucosa and sub-mucosa.

The pathological phenomena here seen are to be distinguished from Haemato-salpinx — a collection of blood in the tube. They are rather small haematomata of the degenerated wall of the oviduct. Had it not been for its friability to the loss of so much blood, it is inconceivable that this tube might again have retained its function, however much impaired, which is far from being the case in Haemato-salpinx.

It bears also no little resemblance to the old idea of tubal menstruation, but far its being pathological.

May it not be possible that in
internal haemorrhages, and in bleeding from the uterus externally, and which is generally attributed to the uterus alone, this may not be a more frequent factor than is generally supposed.

We have here an explanation of the occasional internal bleeding in some cases of laparotomy, or also the oozing externally from the cut end of the tube which forms the clump, in those cases in which that is transfixed to the abdominal wall.

Another condition frequently following an abdominal section with removal of the ovaries or appendages is I feel disposed to think dependent on a like condition to the one here illustrated — namely bleeding from vagina for some days after the operation, and sometimes falsely named menstruation.

It appears simple, the ligature round the broad ligament hindered the venous return, the capillaries of
The mucosa become engorged and rupture so that the connective tissue is destroyed and the epithelium shed with outpouring of blood into the lumen of that part of the tube which is left, and the tube being blocked distally the blood naturally escapes by the uterus. The blood-pressure soon tends to diminish as the congestion of pelvic viscera caused by operation passes off, and the haemorrhage ceases perhaps to reappear again at next menstrual epoch, but gradually, at least in the majority of instances, subsiding. We do not mean to infer that the uterus takes no part in these haemorrhages, but apart from the menstrual one it seems more feasible to account for it in this way, as the more so if Christopher Mantini's new centre theory of menstruation have any truth in it.
Appendix is a list of some of the literature consulted.

Soper. Diseases of Women.
Bandl. Die Krankheiten der Frau
Wells. Ectopic Pregnancy.
A. Bernitz. Archiv f. Gynäk. 1850 p. 129
Arch. f. Gynäk. XVII. 389.
Rumpf. Experimentelle Untersuchungen über das Schichtenimplantirten Föten.
Arch für Gynäk. XVII. 53.


II.

Extra-uterine Gestation?

Sub-peritoneal abdominal.

The raison d'être of so exhaustive an examination of the following case rests in the belief that only by such exhaustive investigation as has been previously done in this subject by Hart and Webbin can we ever hope to attain to an exact knowledge of this, or any other pathological condition, and in the assurance that the fuller and more abundant this careful report be the more accurate will our knowledge become.

The various examination methods have in turn been adopted here and though the case has its chief interest in the comparison of the actual state of the viscera as exhibited by this
Examination with the familiar clinical manifestations. There are numerous failures presented both in the naked eye and microscopic examination which give their additional support to the facts already observed. Knowing this condition and the conclusions drawn from them.

Clinical History.

The patient, Mrs. Peddie, aged 29, was recommended to Dr. Halliday (now's hand at the Royal Infirmary, Edinburgh) by Dr. Ferguson of Perth.

Dr. Ferguson first saw her in March 1893 when she was complaining of pelvic pain and difficulty in passing water. She had menstruated in March, 1892, and since then she had been total amenorrhea, although at the time corresponding to the menstrual period there was a severe attack of distending in the pelvis causing her
to take to bed. On 17th March a repeated examination revealed a swelling in the fundus firm and continuous into the cervix, and this Dr. Ferguson supposed to be the fundus of a retroflexed grand uterus. He pushed it up and inserted a pessary, but being sent for soon afterwards and finding the patient exhibiting symptoms of collapse he removed the pessary. On March 31st patient was apparently well again but on the 2nd and 7th of May he was sent for to draw off the urine, and then learned that on the 1st of May there had been a slight hemorrhagic discharge from the uterus, the first since the end of December — rather more than four months.

She was admitted to Ward XXVIII on 10th May. Her chief complaint now was the down-bearing pain with occasional attacks of retention of urine. Previously her health had been good, there being no Evidence of...
a peritonitic attack at any time previously.

She had had two children, the first five years, and the second three years prior to this pregnancy.

Menstruation had always been regular and there was no accompanying dysmenorrhoea or leucorrhoea.

Abdominal Examination reveals a swelling reaching to just below the umbilicus; the uterine sounds are marked, but foetal heart sounds are not audible.

"The vagina shows typical signs of pregnancy; the cervix looks forwards and is directed against the symphysis pubis. The pelvis in the region of the posterior fornix is occupied by a rounded tense cystic swelling."

This swelling appeared to be continuous with the cervix, and after I had
pointed out the evidence of a distinct ballottement apparently of the
foetal head in the posterior fornix,

the condition was considered to be
one of sarciform disintegration of the uterus. The swelling could not be pushed up, but meanwhile as there were no urgent symptoms demanding active interference she was sent home.

During her stay in the infirmary there occurred several slight haemorrhages from the uterus, which might have caused some reconsideration of the diagnosis arrived at.

On August 16th Dr. Ferguson was again called in and found that there was severe abdominal pain with great tenderness, and a temperature of 104°. Next morning temperature had fallen to 100°. The pain was relieved and no fetal heart sounds could be heard — but an attack of diarrhoea had set in.

August 24th (8 1/2 months) she was brought back to Edinburgh in a very low state, suffering evidently from septic poisoning, and becoming jaundiced.
The further history is supplied by Dr. Barbaud, who from this time had charge of the patient.

"On her admission I found a tumour extending to the umbilicus, with an irregular outline - the central part being more prominent and of varying consistence.

The condition per vaginam - vagina flattened against the pubes, cervix out of reach - was exactly like that found at retroversum of the gravid uterus; but the palpation of the tumour through the abdomen showed that the tumour was not the gravid uterus, and one could recognize a portion of the sac wall which varied in consistence - an inequality in the surface of the tumour just above the pubes, which at intervals became more prominent and firmer in consistence. From these characters this was evidently the empty uterus incorporated with the front wall of the gastric sac."
She was in an extreme bad state for operation — almost mournful, but it seemed the only chance. After consultation with Professor Simpson, who kindly assisted me in the operation, abdominal section was done.

The peritoneal cavity was opened into in the middle line, and contained a considerable quantity of very hectic fluid, suggestive rather of the post-mortem than the operating room. The uterus was seen pushed up to the right of the middle line by a swelling behind it. A layer of tissue apparently continuous with the fundus extended from it upwards, where it was lost, being matted with the bowels.

It ended at the left of the uterus in a free border, part which was seen a bluish swelling recalling a thin walled ovarian tumour whose pedicle has been twisted. This was incised and the fingers forced into a mass of blood clot in the heart of which was a pedestal of a size corresponding...
to that of a size or seven months uterine fetus. It had apparently been dead for some time as it was in an advanced state of decomposition, and the cord had separated.

The sac was cleaned out, the placenta which was on the anterior wall of the uterus, coming away without force, then washed out, and stitched to the abdominal wall.

A very fetid discharge came away from the vagina during the operation, so that it was thought necessary to wash out the uterus from vagina.

From the condition of the operation it was evident there could be little hope of recovery, and she rapidly sank and died on the following day.
Morbid Anatomy.

To ascertain the exact relationships of the sac wall to the pelvic structures, the pelvic wall was removed carefully and entire and was then frozen. Thereafter four sections of the pelvis were made in parallel planes, passing anterior-posterior—a vertical median, one left and two right lateral sections.

The exact positions of these are regards the bony pelvis are depicted on Plate II.

For convenience of reference the sections are lettered A, B, C, D, E, from left to right and the tabs thus produced A, B, C, D, E, from left to right also.

It will be convenient at this point of our description to note the exact position of each section as regards the bony pelvis.

Section (1) directs the sacrum from sacrum to coccyx and passes
through the symphysis in front, then forming the vertical median section. Section (a) passes through the sacral wing just beyond the sacral promontory behind and above, and no front through the pubic rami a little beyond their bifurcation.

Section (c) lies about 3 inches to the right of the middle line, and posteriorly passes internal to the first sacral promontory, passes the second, and cuts through the third and fourth, while anteriorly it divides the pubic bone.

Section (c1) is taken at the sacro-iliac synchondrosis behind, cutting through a very small portion only of the sacral wing, passes about 3½ inches internal to the anterior margin of the acetabulum and inferior divides the tuberosity of the ischium.
Sectional Anatomy.

Vertical-Meridional Section.

Plate XXIV.

The plates are arranged in order as was described in Pelvic Haematoccele and the description is followed on the same plan.

This section passes through the middle plane of the pelvis that is in line with the sagittal suture, and the right side of the pelvis is that one shown—the left face of Plate C formed by Section 6.

Any Pelvis. The Sacrum and Coccyx present no deviations from the normal curve except one slight bulge at the junction of the 3rd and 4½ pieces of the sacrum; the symphysis is perhaps more horizontally than normal and measures li its greatest length 4 centimetres, ½ rich and li its greatest breadth ½ cm.
The pelvic measurements are:

**Brim**: Obstetrical Conjugate 11½ cm. 4⅞ inches.

Anatomical = 11⅜ cm.

**Cavity**: Antero-posterior 11⅕ cm. 4⅝ inches.

**Outlet**: Antero-posterior to tip of coccyx 9½ cm. 3⅞ inches.

The large conjugate at the brim is no doubt in part due to the symphyses on section having here a pointed upper extremity. The narrow outlet is also due to the fact that the line through the symphyses has to the line of the first sacral body a large convergence instead of being divergent.

Means On viewing the section as a whole its main feature is seen to be the uterus. It is not cut transversely, but portion of the cervical canal being opened into, and only a small part of the uterine cavity, the uterus being unmarked.
displaced to the right. This uterine caruncle reveals the presence of the remains of decidua, which is more pronounced in another section, and will thus be more fully considered. The uterus is of a pink appearance with fine and thin more deeply tinctured points indicating minute blood vessels; the cervix is more deeply colored.

The uterus shows a large increase in size from that of the non-pregnant condition; its wall is thick, fleshy and tough, forms a consistency that of the cervix being quite hard and strong. The lie is that of acute inclination the fundus being considerably lower level than the os externum, this is in all probability a change produced subsequently to the operations, and has also in some degree been exaggerated by the unfortunate insertion of a uterine plug best remembered. Attached to the upper and posterior wall of the uterus quite near the fundus is seen the uterine sac was already referred to as having been incised during the
operation. The cervix is darkened and slightly drawn up although little softened.

Vagina At the opening there has been slightly dilated by a small vaginal
plug. Its upper 2/3 shows the usual sigmoid slit and from opening to
roof of posterior fornix, which forms
near a vertical line, measures 10 cm.
It is like the cervix, much congested.

Perineum is firm and also shows deep
congestion.

Bladder is triangular in shape and its
walls are contracted. There is little
casts present at its arising here to the
left of the middle line. The uterus lies
against the base which is uncovered to
the curve of the anterior uterine wall.
Its walls are fairly vascular especially at
the upper posterior angle which is in
relation to the cervix, numerous small
vessels being interspersed in the
connecting tissue here. The wall seen
in this section to vary considerably in thickness, this, however, in many due to a difference in the obliquity in which the mucous membrane is cut.

The mucosa is not seen in its extent on this side the section, but on this other face, and is many curved forwards.

Peritoneum far is found in amount.

Rectum and Anus. The anal canal is cut medially. The Rectum at its lower limit is distended by a plug and is again cut into just below the promontory, and the wall of this portion are closely approximated, whilst they are in immediate and close relation to the sac wall. These two structures, as it afterward shown, being incorporated the one with the other. The section has passed through the middle line of the pelvis, and we find the rectum scarcely opened into except when it had been plugged, being
mainly displaced over to the right beyond the middle line.

Gestation Sac is before its shape being contracted after extraction of foetus and placenta, and contains the tube gum gage with which it was plugged at this operation. There is no trace of it of haemorrhage subsequent to this operation. The larger of the hints of the sac passes downwards and forwards around the posterior and fundal walls of the uterus and is in immediate relation to the fleshy tissue of the abdominal wall in front. The smaller passes upwards beyond the peritoneum among the intestines. The descending tube passes downwards and backwards between the cervix and vagina, beyond the posterior fornix thus taking up the natural position of the pouch of Douglas.

There is no trace of placenta observable, this having been removed in a state of decomposition from the posterior wall of the
detrusor at the time of operation. Threads of
the membrane arise within the sac wall.

Peritoneum. This is quite evident over the
anterior wall of the uterus, and on the
fundus itself till it reaches that point
from which the sac wall is reflected
from the uterus. Here as far as naked
eye examination is concerned it is
impossible to trace it further. There can
be no adhesion whatever between these two
peritoneal surfaces. The sac wall is so
intimately related to the rectal wall
behind and the pouch of Douglas below
that any attempt to discern it from
these is a failure. On the posterior
surface of the uterus, over which the
placenta was attached, it is of course
impossible without microscopic
examination to tell whether the
peritoneum has been stripped off or
whether the placenta has been implanted
on the peritoneal surface.
Left Lateral Sagittal Section

Plate xxv. xxvi.

This section has passed as already indicated through the pubic bones just beyond their angular bifurcation and behind through the body of the sacrum beyond the sacral foramina.

The most striking feature of this Plate is the presence of the greater portion of the Bladder with the thick walled gestation sac and the absence of vagina and rectum.

Within the uterus has all but disappeared, thus being seen are indications of the corns situated in front of the bladder and distinguished by the numerous vascular points which are mingled with its muscular tissue.

There is no evidence here of any Fallopian tube or broad-ligament although that part of the sac wall lying along the base of the bladder represents the junction of uterus with broad ligament.
The bladder can - here is pear-shaped, its wall, an thick, firm, and somewhat pale in colour. The section passes transversely through it showing that it is displaced considerably leftwards. Its cavity contains a small quantity of urine. The proximal end of the urethra is seen in section as it is passing through the mucous membrane to its orifice in the bladder. The distal end of the urethra is also present, above the iliac vessels, and lying alongside the prostatic muscle.

It is cut very obliquely but shows evidence of having been considerably distended. 

Around the bladder the connective tissue has interpersed through it numerous venous channels which, as they were filled with congealed blood, gave this a characteristic appearance. These occur chiefly in the paraprostatic tissue and in that between bladder and pubis bone as noted by Hart in his cases.
Rectum. The wall of the rectum is first grasped, the section passing tangentially through its mucous membrane. Then the section is almost cutting out of the left half of the pelvis. In front and below the bowel lie the iliac vessels. The vein appears very long, being cut obliquely. Some coils of intestine lie entangled together above and in front of this glistening sac. The hearts of these are closely involved in the tissues comprising the sac wall.

Gestation sac retains the same appearance. Its walls appear very thick, a much as 2 cm. in some parts of the descending colon. This, however, is in some part due to the walls here being cut obliquely instead of almost tangentially, and is wrong at that most inferior portion behind which lies the rectum, and again immediately behind the bladder and the cervix and vaginal fornix, being situated in doubt by the connective tissue and...
to the apparent and real thickening. There are remains of membranes adherent to the sac wall internally. The inner aspect of the sac is that of decomposition approaching to gangrene, the tissues being of a dark green colour. Entering some coils of intestine are incompletely connected to the sac wall.

Pertinence can only be traced usually around the bladder, and the opposed surface of uterine cornu and broad ligament. Shortly after passing the cornu towards the front it becomes lost in the massing of intestines and other tissues. Nor can it be traced on the abdominal wall, the same change having taken place there.

The description of the left side wall of the pelvis is better deferred to the direct inspection since there is little that is obvious in the decline here described that is new to us the other slab.
Uterus

This stands out prominently in the slab. It is cut merely, being displaced somewhat to the right. The tissue is of firm consistence, pale pink in colour, with a few dark points indicative of blood vessels interposed. What contrasts so strongly with this pale connecital tissue is the deep dark red decidua which in two separable layers fills the cavity and projects down along the cervical canal. The cervix as shown in plate XXX is of a much darker colour than the uterus and is distinctly more vascular.

Measurements of the Uterus.

Fundus 15 or 15½ cm. 6 inches.
Cervix of uterus 6 cm.
Cervical Canal 2½ cm.
Internal measurement 10½ cm. 4¼ inches.
Greatest antero-posterior diameter 6½ cm.
The deciduale cast is pendulous, and 

Rose in the Cervical canal.

Vagina is only present in it's upper 2/3
being cut very obliquely.

Bladder. Some small part of the muscular 
tissue of the external right of the bladder 
still remains with a mere trace of 
mucous membrane in the centre, and 
beneath it. The cross section of the veins 
passing through the muscular coat 
showed the bladder chiefly in the 
connective tissue between it and the 
pubic bone and a group of vascular 
spaces filled with coagula. These 
have already been referred to. 

A considerable amount of retroper 
ical fat is also to be noticed.

These two conditions have been described 
by Kant.

Rectum. From above the perineum 
to just above the anal canal. The rectum 
may be seen, its superficial wall being
cut tangentially so that at two points it is not opened into. Its surface coal is also dark in colour and seems to have participated in the deposit of the reproductive and gestative area.

This Lec has practically the same character and relations as previously described in reference to the renal section. The reflection of the sac wall from the uterus is particularly well marked.

Diffuseness is distinct on both sides of this ureter-vesical pouch, and over the fundus of the uterus to the sac reflection; elsewhere it is not discernible.

The common iliac vessels and the ureter are cut obliquely before they have reached the promontory.

Measurements of the pelvis here are:

- Obstetric: Conjugate 11.5 cm. (4 3/4 in)
- Anatomical: 13.2 cm. (5 3/8 in)
- Conjugate Anterior Posterior 11 cm. (4 3/8 in)
The line of the pubic bone is parallel to
the first part of the urethra.

**Second Right Lateral Sagittal Section**

| Plate XXXII | XXXIII |

These plates representing this section, after
hardening and slight dissection, represent
the opposite face to that shown in the
previous plate. The face corresponding
to those already described forms the right
side wall of the pelvis and will be
noticed under the heading of Dissection.
This section has been made near to the
side of the pelvis, only a very small
trace of the false wing being visible.
There is little to be noted in the appearance
presented by the frozen undischided
specimen XXXIII. Excepting the continued
presence of the irritating sac which occupies
the main portion of the space created by
the pelvic wing. In front of and below the
sac, however, we note various sections of
the right fallopian tube which being
cut across in several places would

Thus appears to have been greatly confirmed.

The lumina of the tube contained a considerable amount of a caseous material somewhat purulent. On removal of this the folds of mucous membrane lining the tube were quite marked, only seeming to be somewhat exaggerated in size as compared with the normal condition.

Behind this venation sac is an expansion of connective and fatty tissue surrounding this region and a portion of the venation sac, both which pass in posterior to this tissue.

Under extending alongside the front of the Vasa muscle is the urethra much distended and cut very obliquely; at its lower end it passes in the connective tissue behind the posterior sac to reappear again at the lower angle of the venation sac wall on its way to the Bladder. It has evidently been much compressed and distended.
Directional Anatomy.

Under this heading we have seen to consider the examination of each side wall of the Pelvis and also the slab described in the preceding paragraph.

Left side wall of Pelvis

This was drawn after the specimen had been hardened in spirit and directed to show as much as it was possible to.

The face wall is comparatively thin at its upper and anterior portions but thick and seemingly thrown into folds at the site normally occupied by the pouch of Douglas. At one corner is seen the extreme angle of the bladder cone with its numerous small blood channels and a little above this the commencement of the Fallopian tube passing through the cone in its intestinal portion.

The Fallopian tube was detached in the
tissue of the sac wall as a cord-like swelling. An incision was made into it and this was continued in both directions, then folded into which the mucous membrane is thrown serving as a guide throughout the entire length. The result was to demonstrate that this tube was intact and later dilated, and that it was not on this side the origin of the ectopic gestation was to be looked for. The dilated extremity was flexibly dilated, but more a less hidden by fibrotic adhesions until directed.

Included within this curve formed by the Fallopian tube and beneath it was felt another somewhat diffuse bounded swelling which from its position and relations seemed in all likelihood the ovary.

Attached to the inner aspect of the sac wall which is of considerable dimensions on this side are the remains of the membranes—mere shreds in a state
of decomposition. In the sac wall are quite a large number of fairly large blood sinuses, especially in the thicker areas.

The three vessels lying below the prostatic muscle are cut obliquely, the veins almost tangentially, and there is quite a semi-circle of small venous channels lying in the connective tissue around the back of the bladder, and a few smaller ones in the para-prostatic tissue.

A considerable portion of the bladder extends into the lobe being displaced very much to the left.

This muscle is crossed obliquely at two points, one near the iliac vessels above the bladder and the other behind the bladder, but yet having entered the muscular tissue of that organ. It seemed considerably distended, but was not at any part occluded.

On further dissection this was rendered more evident, and in addition that it was not involved in the tissues composing the sac wall.
but lying under peritoneum in its own connective tissue. On making the incision it was observed that two bare  
areas appeared to be covered by peritoneum and only united at intervals by slight adhesions. These still manifested the  
smooth, polished glistening surface characteristic of peritoneum, and were separated with the greatest facility.

Thus commencing at the cut edge of the incision and proceeding in a backward direction it was possible, very easily,  
to separate the two layers and so to check out the formation of the space from the vaginal pouch of Douglas. Even with  
greater facility could they be detached forwards the bladder was evidently bound by the ligament and inceptdible-pubic  
ligament. When reached superiorly and the posterior surface of the bladder was inspected clearly demonstrating  
that the peritoneum has not been detached from off this left side wall of the pelvis in any region of this slab.
In Plate XXIV the greater extent of the fascial plane is shown across its surface, while the fascial plane takes its direction throughout its entire extent and surrounds the common body. The length of the tube is approximately 14 and a quarter centimetres, about 6 inches.

The round ligament is also well shown in the plate, lying between the bladder and the Fallopian tube.

Sub. B. Plate, XXVI.

The uterine cornu is more evident, becoming of greater extent and the remainder of the interstitial portion of the Fallopian tube has been cut open. The peritoneal pouch is lined by peritoneum as before stated. It is however impossible to trace the peritoneum upwards beyond the reflection from the uterus of the Fallopian tube.

An attempt was again made to find the line of junction of the two peritoneal surfaces which it was possible to separate in Sub. A, and which
Enucleate the oesophageal sac. This was found and they were with comparative ease dissociated all along the posterior wall, and over the upper aspect of the sac wall where the intestinal coils seemed intermingled—these latter were included only attached by extensive peritoneal adhesions. This separation was not difficult throughout—almost the entire thickness of the wall, yet on approaching its remoter side—the central one—there was found to be such intimate adhesion that separation without tearing was impossible, as also over the anterior wall at this level and forming.

Table 8, Plate XXXI and XXXIII.

In the sac wall near its upper anterior limit is an irregular opening which on dissection proved to be the apparent termination of the Right Fallopian tube, which in this way by a funnel-shaped aperture communicated with the
canal of the sac and was probably some-
where near the seat of rupture. On the
internal surface of this funnel-shaped
diverticulum of the canal can still be
traced the remnants of the dendritic
folds of mucous membrane quite
expanded and widely apart — this
probably representing that part of the
tube which was distended prior to the
primary rupture.
The view presented by the other side of
this same slab is delineated in Plate
XXXIII.

The Fallopian tube which previous
to dissection was seen cut at various
points in transverse section has been
carefully traced to its course from
the uterine cornu to its opening into
the fallopian tube. Even in the contracted
condition of the sac after which
the tube lay it measured at least
three inches from cornu to aperture.
Its mucous folds were very distinct
and the lumen was occupied by
some cellular material. No trace of
It may could be made out other than an undermined thickening at one part of the sac wall.

The sac wall is here reflected from the former wall of the uterus as the level at which this tube enters into the uterine cornu.

The vermiform appendix is present, rooted down to the intestines, and rooted on itself. Its walls are extremely thick and cartilaginous-like, and its cavity contained a thick white caseous material.

No obstruction was found in the uterus, which was traced along its course to the bladder.

Sciab E. Right side wall of Pelvis.

dittle more than the outer wall of the operation sac remains here.

Some distance below it is a solid tissue in which a constricted portion of the fallopian tube is seen ramifying, and a little below this
again the broad ligament near this uterine cornu. Between these structures and the gestation sac is a long cystic-like cavity.

Behind this sac and between it and the vesica a considerable length of the right ureter is shown much distended. It passes behind the lower angle of the sac-wall, and reappears in the connective tissue beyond.

A portion of this thick walled seminiform appendix is seen in a position at the upper angle of the gestational sac.

Résumé.

The uterus is enlarged not only as regards its length and internal measurement but in the thickness of its walls to a considerable degree, such as is usual in Ectopic gestation.

A decidua or the remains of an decidua is present in the uterine cavity attached to the anterior and the
posterior walls and projecting into the cervical canal. The position taken by
the uterus is that of elevation and acute anteflexion, besides which it
is displaced somewhat to the right of the median plane. This is due
largely to the uterus having been much
drawn up by the gestation sac previous
to removal of the foetus, and to the
subsequent contraction of the sac walls
but is also in considerable part due
doubt caused by a cotton plug
having been inserted into the vagina
after death. This at least has caused
the marked raising upwards of the
wrists.

The posterior wall of the uterus and
the adjacent tissue was attached
the pleura, and from near the
fundus where guttering arises the front
wall of the gestation sac. This looks
muscular, but does not prove to be so
on microscopic examination.
The cervix is very little shortened and
is considerably more vascular than is
the body of the uterus. Its canal is not patent at least to any degree in the lower end of the decidua is present in it. The vagina is drawn out longitudinally owing to the elevation of the uterus. Its margins are jagged distinct.

Apart from the presence of the Fallopian tube, there is no evidence of the broad ligament as such, on either side.

The Right Fallopian tube is that from which the ova is distant. It is marked by convoluted and is contained in a dense tissue. Its mucous folds are distinct and the lumen is occupied by a connective material. It opens by a wide funnel shaped aperture into the genital tube at about three inches from the uterine cervix. This is probably the seat of primary tubal implantation.

On the other hand the Left Fallopian tube lies in a thin part of the sac wall and is not at all
The external aspect of the sac wall where the tube lies is smooth and shows no trace of the underlying structure, but the inner surface of the sac wall shows the tube throughout its extent as a cord-like body. This was opened into and traced to either extremity, being intact. Its length is about 64 inches.

As in the ovaries the right one was not found although a definite thickening of the wall in the neighborhood was removed and examined microscopically. The left ovary has already been described and like its tube formed a bulging prominence on the inner surface of the sac wall, and was examined microscopically.

The round ligament of the left side only could be detected and this was manifest throughout its entire length. Structures lie behind the uterine and in the contracted condition reach into either iliac fossa as well as to the lowest limit usually occupied by
The pouch of Douglas.
The intima was lifted up out of the pelvis even in the collapsed condition and the uterus alone is left.
Peritoneum. This has only been traced over the bladder and the anterior wall of the uterine canal to the fundus where it is small and in appearance, also on the left side the sac was easily detached from the pelvic peritoneum for some distance downwards but this separation could not be continued to the middle line. It is thus impossible to determine accurately without having recourse to a careful microscopic examination what is the exact relation of peritoneum to gestation sac, although we are inclined to regard the opinion that it can be no other than a sub-peritoneal - pelvic that has become sub-pelvic - abdominal, in which the tube and broad ligament fall descend into the pouch of Douglas remaining and developing in that position the uterus.
entering through the layers of the right broad ligament, then stripped the peritoneum from its loose attachment on the back of the uterus — indeed even higher than this loose attachment — and through it separated the layers of the left broad ligament.

The only other possible conclusion would be that having developed near the outer end of the Right Fallopian Tube, it undoubtedly had done, the ovarian egg escaped by the fimbriated extremity and descending with its placenta into the true pouch of Douglas, then developed intra-peritoneally, the placenta becoming attached to the peritoneal surface of the uterus. The mere mention of such an alternative — the possibility of growth by implantation of placenta on peritoneum would be most shocking resisted by the majority of men are 2. Those workers in this field of Obstetric Pathology — Hunt — Webster — Blanch Saltonstall —.
place we can only determine by the use of the microscope and even then we shall find that in such a case at the point where the pituitary has undergone so great change from attacks of local pyrrhotitis and alteration in the constitution of its tissue, it may be impossible to recognize that structure, indeed it may be even inclined to regard the hard and fast lines by which the pituitary is usually held to regulate the classification of Ectopic Gestations as being without reason of existence seeing that that structure may be so destroyed and may so absolutely disappear in the new formation of one wall by means of plastic adhesions, strangled lymph, and connective tissue formations.

In addition we may expect to find no little difficulty from the fact of decomposition having advanced to so marked a degree even the naked eye
appearance of the tissues.

The patient lies sitting on the right side.
The occurrence of this displacement, we
have noted in treating of pelvic
haematocoele.

The bladder has deviated from the
anterior position very considerably being
practically entirely in the left half of the
pelvis. Considerable pressure must
there have been on the bladder to
displace this connective tissue so much
but as Kent has pointed out, the
connection here is by no means a very
firm one there being a considerable
amount of retro-pubic fat in the
tissue which thus is evidently capable
of considerable lateral displacement,
as well as downward in prolapae.
Microscopic Examination

A large number of small portions of tissue were removed and prepared for microscopic examination by hardening in alcohol and thereafter cutting in paraffin for microscopic study. I find it much preferable to keep the sections as described under Pelvic Haematoxylin in saturated Formic Sublimate - the freezing and thawing tends to destroy epithelial structure.

From Slab A. were taken

Pieces of the left tube this non pregnant
one

Pieces of the left ovary

Slab B.

Portion of the posterior uterine wall
showing the origin of the gerations pea
wall thus

Slab C.

Uterine wall (Anterior) through its
Substance including decidua
Uterine wall (posterior) near fundus
Uterine wall including reflection to
from Sac wall
Uterine wall lower than preceding
Uterine wall at level of cervix
Vagina rectum and Sac
Rectal & Sac wall

Tab D. Two portions, Rectum & Sac wall
Tab E. Two portions of tissue supposed to
be on right ovarian.

As in all cases of Extra uterine notions
the relations and conditions of the
placentum have formed the important
study. So have numerous pieces of
tissue have been taken which from
their position in relation to the normal
condition of parts been supposed to
contain placentum altered or
unchanged. What is so far as
important - the structure and attach-
ment of the placentum - it was
impossible to gain information
regarding, this having been removed
in operation, in itself would it
have added much considering the
change that is found to have taken place in tissues surrounding the sac due to the decomposition that had continued for some time prior to operation and death.

It was important to observe the changes which had taken place in the posterior uterine wall to which the placenta was attached and this has been done carefully so as to include sections embracing the entire length of that posterior wall.

Especially with regard to the sac wall was it necessary to examine the tissue which went to compose the portion reflected from the wall of the bladder and sections of this were cut at various levels.

In addition to these the condition of the ovaries, tubes, and bladder were attended to.

Sac Wall

I at the back of the Uterus where the Placenta had its attachment
Compare Plate XXXVII, XXXVIII, XXXIX.

On examining any one of the sections taken from the anterior wall of the uterus, internally as regards the sac wall, we immediately note how much has been the increase of connective tissue outside the muscular layer.

In Plate XXXVII we have a section of the muscular wall and peritoneal coat taken from the anterior uterine wall and this presents practically the normal aspect of an unimpregnated uterus but for the increase in the muscular tissue and muscle cells.

There is a very sparse amount of connective tissue overlaying the muscle.

On examining any one of the prepared slides with the naked eye and with an oblique light—especially those stained for this purpose with Orange Rubine S.—it is not only possible to mark the line of demarcation between connective and muscular tissues, but that line forms the prominent feature of the naked eye specimen.
This line is due to the arrangement of the muscular fibres being mainly grouped in bundles perpendicular to the muscular coat. Outside of these however may be noticed a few fibres arranged parallel to the surface.

In Plate XXXVIII which has been taken from just outside the gastro-intestinal sac we observe a considerable increase already having taken place in the amount of connective tissue which lies outside the muscular area. This is considerably more vascular there being numerous blood spaces devoid of any special wall and the tissue as a whole is constructed much more loosely. The cellular elements in this connective become more pronounced just overlaying the muscular tissue.

Plate XXXIX is a drawing made with the same power of the microscope and on the same scale. It is taken from
The uterine wall of the uterus inside this sac, and on which the placenta was implanted. Between this muscular tissue and the surface is a wide and chiefly taken up by a vascular connective tissue loose in arrangement in its deeper layers becoming more dense superficially. It has also the same characters as regards its cellular constituents, the outer layer being almost devoid of cells and mainly composed of a dense fibrinous tissue in which are numerous spaces - vascular spaces, some of which contain coagulated fibrin; beneath this more cells begin to appear and nearer the muscular layer the true elements of cellular connective tissue is found. In this latter area are numerous large blood spaces containing not only fibrin but clusters of large lymphocytes.

Again the muscular tissue has a dense arrangement - perpendicular to, and a slight superficial layer
Parallel to the surface.

The superficial layer is somewhat granular and ill defined in its constituent elements. There is not anywhere to be found a villus or at least what one could affirm as a villus with certainty. This applies also to the other sections examined.

When we come to inquire into the cause of this great increase of connective tissue, two probable causes seem to present themselves, either that it is acting as hypertrophy, or derived from the connective tissue underlying the periosteum which has been stripped off; or otherwise that it is not all an hypertrophy but that in addition there has been superadded an amount of connective tissue derived from the broad ligament and some blood by the uterine in its progress of expanding and separating the layers of the broad ligament—this being a continuous and gradual process and not
likely to lead to destruction of the tissue by means of transfixion.

The portion of uterine wall is seen
in Plate XIX and here the chief
characteristic is the presence of three
groups of large cells of a peculiar
character apparently unassociated with
the surrounding tissue, and also
different in appearance.

In Plate XXI a single and larger
group of the same cells is seen in
the connective tissue between the sac
wall and the Fallopian tube. These
are noted occur always in the
connective tissue surrounding the sac
wall both behind the uterine in the region
of the tube and in the tubes and elsewhere
over the sac in the uterine which have
been examined.

They are very characteristic in their
isolation as viewed by a low power of the
microscope, and with a high power
these cells are particularly different
from any in the neighbouring tissues.

This appearance presented under a
high power view is given in Plate XXII. This is a more or less loose connective tissue surrounding the group of cells. The matrix of the group itself is homogenous, almost hyaline in appearance while its cells are deeply stained as regards their nuclei at least, although the surrounding protoplasm of the cells also takes on a considerable depth of color. The cells are mostly irregular in shape and lie in a cell space which infrequently they fill. Many of them are shrivelled up and look more than the nucleus in a large space is apparent.

What the character or function of these cells is I am unable to determine but I take it they are similar to those described by Webster in Ec-topic Pregnancy p. 114: "Occasionally one finds on the surface irregular masses of large round or less rounded cells, somewhat resembling decidual cells; they do not extend as are deeply into the substance of the wall, but are quite superficial, often
projecting as tags from the surface. These cell masses have also been noticed by Orthmann, Wirth, and others, but they are not of frequent occurrence. Their origin is not absolutely certain, but they are all probably proliferated masses of the periheal cells.”

Dr. J. A. Helwee in an interesting article in the Laboratory Reports of the College of Physicians Edinburgh, Vol. I., describes certain large cells as having been studied by him in the uterus of the Rabbit and called by him ‘plasmodia’. He then describes them as “During the last days of pregnancy, large round cells with a single large nucleus appear in numbers (derived most probably from leukocytes); these coalesce and form the multinuclear cells – the plasmodia – so that by the end of pregnancy there is developed a large army ready for service. Immediately these cells have emptied itself of its contents, and its greatly increased tissues completed their function, then
plasmodia begin their work. They are no longer found lying in groups, but are scattered, and their protoplasm becomes progressively more granular. Evidently their function is to eat up the waste material lying around them.

To either description do the cell masses here quite correspond although they may be mere variations of the same phenomenon.

It is however possible that they are merely certain cells left in the stripping off of endothelium, and which under the influence of increased irritancy from the increased vascularity take on active growth and probably multiplication. Such is known to take place in the normal endothelium at least as has been so described before. It may be they are merely the accompaniment of the distinctive process.

In Plate XVI we have represented the
appearance of the tissue extending between the fallopian tube on the non-
pregnant side and the inner aspect of the end wall of which the tube formed part. The dendritic arrangement of the mucous membrane still exists but it is covered by its epithelium.

With little connective tissue intervening the next layer in which the former is placed is the circular muscular fibre. Next this again is a layer of fibrous tissue with few cells and many vascular spaces while opposed to this is a layer of loose connective tissue in which are present quite a number of the previously mentioned large cell areas. Inside this is a layer of dense fibrous tissue at one part an apparently polygonal membrane on the surface. This seems almost devoid of definite structure and cells are about while in other places many broken down cells and nuclei are to be found alongside a lymphoid proliferation hence

endation.
In addition to those sections illustrated in the Plate, many other portions of the wall bore stains which exhibited the same characteristics but very greatly altered evidence by the destructive character of the sepulchral decompos- 
itive process which had set in many days previous to death.

The left many was examined and exhibited true characters of various time but although several thickened areas in the one wall and in the region of the right ovary were examined it was impossible to say definitely whether they contained the true elements.

As regards the decidual remains in the interior of the uterus, the same destructive process has gone on, and it manifested itself in the secretional discharge which issued from the vagina at the time of operation. Plate XLI repre- 
sent the structure of the internal lining of the uterus and the slight powers view of
the same is given in Plate XLIV.
The most superficial layer of muscular tissue is found interspersed by numerous large spaces containing leukocytes. Some of these muscular bundles are seen in transverse, others in longitudinal sections. In the tissue we doubt originally occupied by true decidua we now find numerous large and small clots of fibrin surrounded by a more cellular envelope. These have arisen as haemorrhages, and have now altered the character of the membrane considerably. The decidual cells are seen in no great numbers here and there amongst the smaller cells of the connective tissue and cellular layer. These special decidual cells are a distinctive feature of the preparation and have a pronounced large nucleus with occasionally a nucleolus visible. The tissue in which these occur is evidently undergoing disintegrating change many of the cells being broken down and their nuclei
Splitting up into granules.

The last Plate XLV shows the section of a small tumour growing from the wall of the uterus. It is aided here by connective tissue, threads of which can be seen running up into its substance. Nor does it involve the entire thickness of the connective tissue, as the inner layers are to be seen running directly over the muscular bundles. No muscular tissue is involved as a constituent. The mass of the tumour which is quite a small one is composed of connective tissue and fibres with several large blood spaces filled with coagulated fibrin, and many smaller empty spaces. Its structure and apparent origin does not at all correspond to that accepted for fibroma yet it is possible that such may be sometimes the origin of a fat peritoneal fibrous tumour.
General Remarks.

With the early clinical history of this case, as drawn to the examination of the post mortem specimen, even to its minutest microscopic details, we observe many points of interest in the one bearing upon the other. First, independently of a natural desire to gratify the query as to where the origin, whether tended its growth, and what the relations to the development of this Ectopic Case.

With regard to the clinical history we would be in concluding:

1. The marked absence of signs and symptoms in the early stage.
2. No history of the shedding of a decidual membrane.
3. The commencement of a history of symptoms marked by plethora, albuminuria, haemorrhage, and late pyelitic attacks.
4. The great resemblance to a hemorrhin
of the gravid uterus - the mistake being made by competent observers.

5. The comparative relief from these symptoms and the further development of the foetus, till the 8th month both the indication of any sudden collapse from haemorrhage unless that had been one at the 10th week when the pregnancy was removed.

6. The leucocemia and potte decomposition ensuing both in the sac and inside the uterus as indicated by the discharge.

7. The bulging of the uterus on the abdominal wall during the pains a couple of days before operation.

At this operation -

1. The humble vector Ever on Exploring the peritoneal cavity.

2. Seeming irregularity in the thickness of the gestation sac; and its reflection from the peritoneum wall of
3. The haematoma which was present in the upper part of the sac.
4. The absence of haemorrhage on removal of placenta or subsequent section.
5. Posterior discharge issuing from vagina.

Post Mortem - Salient features -

1. Absence of any haemorrhage into the sac subsequent to operation.
2. Stripping away of peritoneum from behind the uterus, from the floor of the pelvis, generally and, the splitting up of both broad ligaments by the growth of the sac.
3. Position of the primary gestation sac evidently near the outer end of the right Fallopian tube.
4. Groups of large cells - these not being decidua but probably developmentally included.
5. Degenerative changes which have
proceeded in the intra-uterine decidua.

6. great increase of connective tissue on that portion of the uterine wall involved in the gestation sac.

7. Presence of small tumour (microscopic) on the surface of the uterus containing many muscular elements and apparently formed of the connective tissue to which it was attached.

The literature most connected in respect to this case has been:


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Webster, Ectopic Pregnancy

Pozzi, Modernise Gynecology New Yor. 1882.

Spiegelberg Midwifery New Yor. 1882.


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Wyder XXVIII 325

Küchenmeister XVII 153

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Tait Diseases of Women

Abandall Surgical Diseases of the Wamen

Ruptured Uterus
in the Lower Animals.

The following case is little more than a note inserted because of the rarity of the specimen and the interest it has in connection with the subject of extra-uterine gestation not in the lower animals alone but having some bearing on Ectopic Gestation generally.

Many so called instances of Ectopic Pregnancy have at various times been cited but on an insufficient examination or knowledge of the organs of generation in the lower animals. Many of these have not had the substance of credibility.

Professor Hamilton however, reported July in the Journal of Comparative Pathology and Therapeutics March 1891 a case he supposed to be a true abdominal gestation in a Cat. He has reprinted it with diagrams in his...
The exact manner of attachment of the placenta could not be ascertained. Each foetus was invested by a single membrane and the placenta seemed to form part of that membrane.

Entire absence of anything like recent puerperium. Absence from any signs of recent gestation. Four kittens had formed a perineal attachment by their placenta and were nourished accordingly.

He ends by by concluding that the only explanation admissible under
The circumstances is that the fecundated ovum fell either free from the ovary directly or from the end of the tube into the abdominal cavity and took root on the peritoneal surface. And lastly he assumes that to account for this reversed parturition of the tube came into play.

Bland-Sutton in the June number of the same journal severely criticized this report and showed that in all probability there was a ruptured uterus undetected. He ends thus: "In concluding this paper let me add that there is no accurate or reliable description of a case of tubal gestation in any animal save the human female on record. That this form of gestation occurs, there is no doubt but it awaits demonstration.

The history of the present case and its examination is as follows, and it will be seen is back on Bland-Sutton's remarks completely.

During dissection in the laboratory
The condition about to be described was noticed — not recognized until I had done so, and subsequently given over to me.

It was a large white Rabbit domesticate and appeared a perfectly healthy one and remarkably well nourished at the time it had been killed. On opening the abdomen there was found lying immediately to the front a longish hard swelling entangled in the hindmost and lower portion of the great omentum. It was perfectly unattached to any other structure and after the Rabbit was suspended the Tumour being out of the abdominal incision, being firmly bound to some of the fat lobules by an almost imperceptible lymph fold causing a few adhesions and coming near back of the surface of the cecal sac.

Turning this upward a fewwards and elevating the Urinie Cæcum I noted they were remarkably congested
but not much enlarged, excepting the one on the right side which evidently had some body internally about its middle. I now examined them carefully as also the tubes, and ovaries which yet remained in situ bound down by fatty tissue and found nothing to account for the presence of the foetal or cystic external to the generative organs.

The cysts or rather concretions for they were becoming so large now incised and one of these appeared a full time rabbit armed with hair and surrounded by its membranes, and with a placenta lying underneath. It had been cut almost perfectly in the median line. The other was a little round little but bone, there was no membrane. The placenta visible. They lay side by side.

The uterine came from now examined cut open throughout their extent. The left was congested and enlarged but empty. The right was filled with a more almost perfect body which was probably the sac of the second foetus.
with its placenta which had not been expelled.
On clearing this out there was seen on the anterior wall a white scar and on
comparing this with the internal surface what had never seemed a wrinkle was
realized the cicatrizial scar of a ruptured uterus from which the foetuses had been
expelled into the abdomen and which had spontaneously healed leaving no
trace of peritonitis or haematoma —
nothing indeed to indicate what had
happened but the apparent septic
foetuses. Unless by very careful
examination this condition would
have been missed and the case
given as one of extraction of an
abdominal origin.

It raises many interesting points.

1. The healing of the uterus being
possible after rupture which even
to the lower animals according
to Bland Sutton is almost
invariably fatal.
2. The true absorption of the foetus which was invested by its embryonic membrane is being generally asserted that there seems no reason to doubt the disappearance of the pentoncal cavity.

3. The aspecific power of the abdominal pericardial cavity was demonstrated in the case of the other foetus.

4. The entire absence of peritonitis or internal haemorrhage.

As regards Extrauterine gestation in the lower animals, unlike feline, I see no reason or necessity to believe in its existence. The conditions are entirely different in the lower animals.

The Falloptian tube is less free to float in the abdominal cavity and get into mischief, it is fixed throughout its length. It is also much more of a tube than a tube and thus will be considerably less risk of delay. Besides in many there is the ovarian sac, mentioned by Husley.
Parker, Bland-Sutton, Robinson, Webster,
which inevitably causes a much better approximation of tube to ovary.
It seems to me that the absence of
extraterine gestation in the lower animals has some bearing also on the
latest thing advanced to account for
ectopic gestation—that of Webster's
decidual formation forming in the lower animals thus end to a much greater
tendency to regression and consequent
formation of decidua in the tube more
frequently—on the other hand parthenogenesis
and oogenesis in absent.

Literature

Webster. Ectopic Pregnancy.
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