Rupture of the Uterus.

by

Mackie.
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Of all the injuries to which the parturient female is subjected none are so formidable or so little amenable to treatment as Rupture of the Uterus. In most of the serious consequences of Labour the Accoucheur can in some degree alleviate the sufferings of his Patient and of her future hopes of recovery to her and her Child, but here it is to be feared he cannot do with any amount of certainty and in such cases as recovery does take place— which are very few more credit has to be given to nature for the accomplishing of the cure than to Medical aid. According to the general rules of thinking one would suppose Rupture would take place oftener at first than in subsequent labours, but statistics prove this not to be the case.

Of 75 cases collected by Dr. Churchill
(1) 9 occurred in 1st Labour (3) 2 in 5th
(2) 14 2 (b) 9 6
(3) 13 3 (7) 8 7
(4) 11 4 (8) 9 occurred in other Labours in smaller numbers

In cases collected by other Authorities
the Tables would seem to show that Rupture does take place most frequently in first labours, but generally it is considered at least not to be more common in Primiparae than in mothers who have been confined several times. In several cases where Rupture arose in third or fourth confinements the previous labours have been known to be quite natural or at least may have been terminated safely for both Mother and Child with very little assistance. — Rupture of the uterus is found to occur most frequently in cases of Male children. This no doubt arises from the difference in the size of the heads of Male and Female children.

<table>
<thead>
<tr>
<th>Circumference</th>
<th>Male head 14 inches</th>
<th>Female 13 3/8</th>
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<tbody>
<tr>
<td>From ear to ear</td>
<td>Male head 7 1/4 inches over crown</td>
<td>Female 7 1/5</td>
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Laceration may take place during any period of pregnancy but most commonly occurs during the process of Parturition.
When met with during the earlier months of gestation in all probability it will have arisen from falls or bruises on the abdomen.

This form of Rupture is generally seen when it does occur, among the poorer classes of people where from the nature of their work and habits of life they are exposed to external injuries more than others in the better ranks.

Rupture may arise in any part of the Uterine Walls, Fundus, Body or cervix, but most commonly we find it in the cervix and lower part of the body of the organ. When the Fundus is the seat of the laceration, external violence will in all probability have been the direct cause of the injury, and this during the more advanced periods of pregnancy when the Fundus has fallen forward and consequently become more exposed to danger. On examination the laceration will most commonly be found to correspond in direction to the longitudinal arrangement of the muscular fibres of the uterus, and when the edges of the tear are separated they are seen in most cases to present a serrated appearance and looking as if
the muscular fasciculiæ had been torn around
more than if the connective tissue binding
them together had simply yielded.

Laceration may be either partial or com-
plete, the first extending only through the
mucous and part of the fibrous coat, but
the second involving the peritoneal coat also.

When the complete form exists and when
the bow is of sufficient size, we may have
the lochus completely thrown into the cavity
of the peritoneum, and in all respects resem-
bling a case of visceral pregnancy.

In cases when the peritoneum is not
opened, there is not so much fear of im-
mediate danger, but from the chances of
inflammation arising which sooner or later
might involve it also, great suspicion must
be entertained for sometime as to the pro-
bable termination of the case

Sometimes we have the injury
confined to one extensive leaf; at
other times there may be numerous
small ones, and generally speaking it
povery is considered a matter of more
doubt when the former is the case.

Cases are known where...
the Peritoneal coat alone was ruptured and all the rest remained entire. In fatal cases where this form of laceration existed, the post-mortem examination presented a great number of small cracks over the fundus, and resembling wounds made by some sharp cutting instrument.

A rarer form of laceration is that which is sometimes seen arising in cases where an adenomatous or cartilaginous plate of the Os uteri exists. Here, if uterine contractions have been severe, and if dilatation of the Os be only very slowly affected, or if all the whole circle of indurated texture may be entirely torn off from the Cervix, cases have been recorded where the perforation was so complete that the amputated part was found lying in the bed away from the orifice of the Vagina alto. In others, more frequently, the laceration is found sealed on the Posterior wall of the Uterus and running in an oblique direction.

This most probably depends on the exciting cause being confined to the posterior part of the Pelvis most frequently. This is
very well seen in cases where the lesion has depended on, or originated from contracted pelvis, as in more than one half of the cases of contracted pelvis, a diminution in the size of the passage is produced by an increased projection forward of the promontory of the sacrum. Diminution may also be produced from various other causes, as the presence of exostosis from some of the pelvic bones, the result of disease. Such projections are often found on the posterior surface of the crest of the pubis, or projecting forward of long epiploë from some of the lower lumbar vertebrae, the result of Caries. We may also have contraction arising from a diminished size of the pelvis as a whole, and this is by no means a rare occurrence.

1. Contraction of the pelvis is one of the most common causes of laceration of the uterus, and may give rise to it in two ways, first, from direct and long continued pressure of the uterine wall between the fetal head and sacral promontory or whatever be the projecting point, and second, from direct yielding of the uterus due to excessive anchoring.
that action being induced by the contraction preventing the ready passage of the presenting part. — In the first of these ways, absorption is excited and consequent destruction of texture. — We not infrequently find muscles rupturing from excessive action and the very same result takes place in regard to the uterus.

The presence of pelvic tumors may present as great hinderances to parturition, but here we are often better able to diminish the cause of resistance and at any rate, in some cases, hasten the process of delivery.

In attending in Midwifery cases great care should be taken in making vaginal examinations, as the slightest possible disarrangement in the relation and size of the parts may produce the most serious results. — This is more to be attended to in cases where from the appearance of the individual or other causes matters are suspected not to be going rightly.

In rickety females or those presenting peculiar formation of the pelvis, the
Accoucheur can often form a pretty direct prognosis as to the likely nature of the labour.—The presence of stone in the bladder over distended rectum or any other such cause, simple though it may seem, if overlooked and therefore not remedied, may in certain cases indirectly lead to a Rupture of the Uterus.—

He may consider laceration as arising from causes destroying the extensibility of the organ, or rather of the fibres of which it is composed.—

It is by no means a rare occurrence to have carcinoma of the uterus existing at the same time with pregnancy, and this perhaps of all degenerations will destroy the contractile power of the organ to the most marked extent; cance may occupy any part or most of the structure at a time, and from its spreading tendency may sooner or later involve the whole thickness of its coats.—Most frequently the Scirrhus form of the disease is met with on the uterus, and it is generally situated in the neighbourhood of the cervix.
The disease may give the uterus an almost cartilaginous consistence, or it may render it friable at certain parts from the deposit of a calcareous substance.

Eccretion may be produced slowly and incidentally from carcinoma before the full period of gestation, from the gradual ulcerating outwards of the disease, and in such cases no great amount of suffering may be experienced by the patient, or at any rate, not sufficient to indicate the approach of such a malady. At other times we have no bad effect produced from carcinoma, although existing to a marked degree up to the full period, but we need not mention that labour cannot, generally speaking, pass without great destruction of texture and probably danger to life.

Again, we may have cicatrices of former injuries existing in the interior of the organ, which must also prevent the natural equalibry of action. These may arise from various causes and more likely than from injuries sustained in former difficult labours.
unskillful application of the forceps. In difficult labours, slight excoriations may often be produced from any simple cause, as pressure exerted more on one part of the mucous membrane than another, and this more probably if at any part it was thrown into folds. Simple injuries and these may produce no bad effect at the time of their occurrence, but on healing up and from the indurations which remain may in subsequent labours materially interfere with the contractility of the uterus.

III. Malposition of the foetus may induce Rupture if not attended to. In cases where the flexed arm or knee is placed at an angle to the trunk, thus presenting the force exerted by the uterus falling equally on its contents. Rupture is apt to occur and this more especially if the pains be severe and any resistance is offered to the advancing of the presenting part. The rupture in such cases will be seated at the point of resistance. The same thing may follow any attempt in
Turning, if the due precaution of laying the hand flat on the foetus at each return of the contractions is not attended to.

I have heard of one case of rupture being produced by the blades of the forceps being pushed directly into the abdominal cavity while the Accoucheur was under the effects of drink. Such occurrences can only be induced under like circumstances, for with any degree of care no chance of such results exist.

IV. Among the other causes leading to rupture may be included attempts to accelerate the birth of the Child in natural labour, and also forcible detachment of the placenta. Rupture by such causes will doubtless be most frequently in cases attended by inexperienced Midwives and such persons. The means generally employed for this purpose are early rupture of the membranes and administration of Ergot at periods when its use is injurious to labour. From these and like causes rupture will be found mostly in first
cases, where from the difficulty of re-
classing the part, greater uterine efforts
and longer time will be required for
the expulsion of the child.

Rupture of the membranes in first
pregnancies, if to be had recourse to
at all, must not be until the Os
has become dilated to the full extent,
and considerable dilatation of the exter-
nal part be effected. — If these pre-
cautions are not attended to, the
chances of rupture will become twofold:
first, because if the Liquor Amnii have
escaped, the uterus will be deprived
of the equal surface on which it
contracted, and if any limb of the
Fetus be projecting out against the
wall of the uterus, then Rupture may
arise in the very form already mentioned;
second, greater uterine action will be
required to make the solid round-shaped
head of the Fetus dilate the passages
than the wedge shaped process formed
by the bag of membranes. — Here the
uterine action may become so greatly
increased, that the walls of the organ
might yield more readily than the
structure through which the child has
to pass.

The same precautions should be
remembered with regard to the adminis-
tration of ergot of Rye otherwise like
results may accrue.

In retention of the Placenta,
great force must not be exerted for
its removal, as it may have become
blended with the uterine fibres from
the effusion of lymph or from the
presence of carcinoma. If the latter of
these results be found on examination,
no attempt should be made to separate
the adherent portion, because we run
the risk of producing laceration or in-
curring haemorrhage which might prove
equally dangerous.

Having enumerated some of the
more important causes of Rupture we
would now consider some of the
more marked of the

Symptoms

In cases of Rupture of the
uterus, no symptoms have ever been ob-
served which could be trusted to as purely premonitory of the occurrence. Sometimes laceration has taken place without any great pain to the patient, affording at the same time no sure means of diagnosis to the Accoucher, who has been able to detect the nature of the case only after death. These must be regarded as rare occurrences, for symptoms are in most cases very well marked after the accident has happened. If labour has been progressing for some time, to all appearance most favorably, and the pains being of good strength, the patient perhaps during a contraction of greater severity than those that have gone before experiences an intense localized pain, frequently likened to an exaggerated form of cramp, and accompanied by a feeling of something having suddenly given way or torn in the Abdomen, suspicions are to be entertained as to the nature of the case, but if these are followed by a discharge of blood from the Vagina, and a sudden receding of the present.
ing part, the evidence becomes more and more conclusive.

Uterine contractions are generally for the most part or altogether sus-

pended, and the patient not infrequent-

ly is conscious of some alteration having taken place with regard to the position of
the uterus or child, which she commonly describes as having ascended higher up
in the abdomen. This will be most
marked when laceration has taken place to so great an extent as to have alter-
ated the complete passage of the child into the cavity of the abdomen or

rather of the peritoneum. In such cases
the limbs of the child can be unusually distinctly felt through the abdominal wall,
and this more especially if the face
and anterior part of the trunk be
directed forward. Then the back of
the foetus is near the surface, the part
presented to the hands are so even that
it must become a matter of difficulty
to detect it from the firm structure
of the uterus itself.

The stethoscope has now become
a very important means of diagnosis. It has been known when Rupture has occurred the death of the Fetus almost always immediately follows and where the sounds of the heart, which a few minutes before were distinctly heard, quickly become arrested as strong proof is afforded to the Accoucheur that some accident has happened, and this, together with other symptoms, is confirmative of the exact nature of the lesion. Cases nevertheless have been reported where the movements of the Child have been distinctly felt by the Mother several hours after its escape into the cavity of the Peritoneal sack. The most certain of all signs is where, upon introduction of the hand into the Uterus (if this be practicable) the rent in the wall is distinctly felt.

Sometimes, by such examinations, portions of the intestinal canal are discovered to project into the interior of the Uterus, and which if not replaced into the Peritoneal Sack may produce very dangerous symptoms. One case
is recorded by Mr. Keenan in which a yard and a half of the intestine became strangulated and ploughed off.

From the severity of the shock produced on the system by laceration of so important an organ, greater or less constitutional disturbance will result which is generally characterised by the following set of symptoms:

- Fatigue and nausea, great anxiety of expression, feeble and weak pulse, skin bathed in profuse and cold perspiration, increased difficulty of breathing when in the horizontal posture producing a desire to lie up in bed, vomiting of dark coloured matter. These again may be succeeded by greater diminution of the heart action and increased irregularity of the pulse, eyes fixed in a vacant stare and in fact an increase of all the symptoms characteristic of intense inflammatory fever.

If the laceration has taken place with the pain by which the expulsion of the Child was affected, the case will become one of greater difficulty of de.
section as many of those symptoms will be wanting. — No doubt a proportion of the sudden deaths continually occurring in midwifery practice have been due to laceration arising under such circumstances.

Laceration of the uterine pains has been enumerated among the diagnostic signs, but this is not a necessary consequence.

In one case recorded by Inglish the child was expelled entirely by the efforts of the uterus although the finger could be passed directly through the rent in the uterine wall into the Peritoneum. — The seat of the laceration will greatly modify the strength and duration of the pains. — When the laceration is confined to only one of the coats of the uterus the pains may be very little altered in strength or frequency, but if the whole thickness of the walls of the organ are destroyed this can rarely be expected.

The appearances presented by the structure of the uterus will necessarily vary according to the nature or mode of the production of the injury. — If it has
recalled from long pressure of the head on the lower part, a swollen and ecchymosed appearance will generally be looked for, while at the immediate part to which the pressure has been applied a thinned and contused appearance of the structure will most frequently exist. If on the other hand, preexisting disease have been the cause of laceration, the appearances will necessarily correspond to those presented by the same disease in any situation in the soft textures. Again laceration may exist where very little change of texture can be detected. Then the injury has arisen from external violence there may be no distinct appearance of injury to the abdominal wall or they may be confused and ecchymosed. In such cases the lesion in the uterus (with) may exist with or without any other apparent destruction of texture.

**Prognosis**

The prognosis in cases of so serious a nature and in which recovery is so seldom experienced must always
be very unfavorable. Terminations

Death may either arise shortly after
the laceration has occurred, from the se:
creasy of the shock to the nervous system.
The patient may never recover the period
of collapse which always supervenes, or she
may recover this stage and tetanus set in from
the intensity of the ex:
action which is perhaps the most common
mode of termination, or life may be extin:
guished from haemorrhage either ex:
ternal or internal and lastly, the case
may terminate in recovery.

Treatment.

The treatment must be considered
under two distinct heads, first Preventative
and second, that required after the in:
jury has actually taken place.

Preventative.

The preventative treatment consists in
the induction of premature labour in
patients who are known to have contracted
tetanus, or in the performance of the
operation of Caesarean if extension have
progressed so far that we know a living
Child cannot be born by the natural process of delivery. In cases where delivery cannot be effected from rigidity of the OS mae or even from complete obstruction having been produced by the adhering together of the lips of the OS, the result of any disease, the accoucheur can often assist nature by producing dilatation by artificial means. The most useful of these are dilatation by the finger or sponge-tube, the introduction of chloroform vapours into the vagina by means of an elastic tube, administration of depresants as Tartrin, Emetic, Veneeschoor, or, if all these means fail, the infliction of numerous incisions into the contracted part, which in most cases however will not be required and which is always attended by a certain amount of danger.

If rupture be expected to arise from the severity of the pains the use of chloroform or some of the other relaxants will in general be very serviceable.

Treatment
Treatment after laceration has actually taken place.

It has long been a matter of discussion among Accouchers whether delivery is to be effected immediately after the injuring by artificial means, or whether it is to be left to nature. Now generally it is considered by the best authorities that the more quickly the delivery is effected, the better chances of recovery are afforded to the father, and seeing the death of the Foetus almost always immediately follows, some chances may be entertained of its surviving also. By the removal of the Child from the mother, the severity of the shock to the system, as well as the chances of Peritonitis, will in a great degree be lessened. No time should be lost between the occurrence of laceration and delivery, as we find from Statistical Reports that of those who recovered the average time that elapsed between the laceration and delivery was under five hours, while of those that died, it was over five hours, and that the average duration of life
is far greater in those delivered than in those undelivered. In those delivered the average continuance of life is twentyfour hours, in those undelivered merely about nine hours.

Modes of Delivery

These will differ according to the nature of individual cases and according to the extent of the laceration, and may be considered under the following heads:

I. When the head has not passed beyond a certain distance, and where the maternal parts present no material difficulty to the passage of the child.

II. Where the child has receded, and where perhaps it has completely entered the Peritoneum, and where the maternal parts at some part or other prevent the removal of the child in the ordinary way.

Considering then the first of these, where no resistance is offered, and where the Os has become nearly or wholly dilated, and the head still within reach, delivering may easily be effected by means of
the common forces. — Here, where the pelvis is of the common size, great care must be taken in applying the instruments as very little force exerted on the presenting part, may be sufficient to drive it out of reach. — In order to prevent this occurring, a Bandeau may be placed round the Abdomen, or, better still, if the hand of an Assistant be placed on the Fundus of the Uterus, and retained there till the head be firmly lodged between the blades. — Cases of laceration will very rarely be found presenting everything favorably as to allow of such easy means of delivery, but such have come frequently under observation.

Second, in cases again where the child has receded into the Peritoneal sack, and where it is entirely beyond the reach of the forceps, it has been recommended to introduce the hand thru the rent in the Uterus, and if necessary perform the operation of turning in the Abdomen, laying hold of the feet and bringing the child away foothing. This becomes a matter of great difficulty.
and one of no less danger, seeing the
importance of the uterus among which
the fetus rests. In removing the child
in this way, great danger arises of
pulling a fold of intestine thru the rent
in the uterus, and if the force ex-
acted for the extraction of the Child
be great, direct laceration may, under
certain circumstances, be produced in the in-
testinal wall._

Certain circumstances may exist
which will entirely prevent delivery by
this mode, such as contraction of the
pelvis, which may be so great as to
prevent the head passing. Under such
circumstances the perforation and diminution
of the head may be sufficient to allow
of its passage._

Again, if the os have not
sufficiently dilated and the other parts
appear normal in size, the infliction of
various incisions may render the delivery
comparatively easy._ Sometimes we have
the uterus contracting so forcibly after the
exit of the Child through the rent in
its walls as entirely to prevent the
passage of the hand of the operator into the abdomen. In these cases, if the contractions of the uterus are not overcome by the free administration of chloroform, delivery by the natural passages becomes quite impracticable — now only two resources are left, namely, leaving the whole process to nature, or performing the operation of Gastrotomy and extracting the child and Placenta thro' the Abdominal walls.

Some have thought the latter of these proceedings unwarrantable from the nature of the structures involved, while they expect the Fetus to be discharged in the contents of an Abdominal abscess. Cases of this kind have occurred and where the mother has perfectly recovered, but they must be very exceptional. The disturbance thus produced in the system would equal if not entirely超过 that incurred by opening the abdominal wall while the immediate removal of the Child must greatly diminish the dangers which otherwise would result from the long continued
discharge attending Abscess necessarily of so large a size. I think now it is considered that Gastrotomy must be far more preferable than leaving nature to terminate the case, especially where the least symptoms of life of the Fetus are known, and if the Mother be a woman of ordinary strength. In cases where death seems to be the inevitable result it were a very wrong proceeding to have recourse to such means and what no Medical man in his sound senses would do. The operation of Gastrotomy is certainly one of grave nature, but I must say I think interference with the Peritoneum is not so mortaT as is generally be believed. Many Patients have recovered after this operation, and all things being favorable and due care having been observed by the Operator I think a better chance is afforded to the Mother than by the process of ulceration or suppurat ion. After the delivery is effected good seems to have been obtained
from the free administration of Opium.

The Uterus should now be well washed out and if on examination any portion of intestine be found projecting into the Uterus, it must be returned into the Peritoneum otherwise we may have the Patient dying with all the symptoms of strangulated Hernia.

After treatment, the Patient must now be kept strictly quiet and all intercourse with friends put a stop to. The Shoulders are to be elevated and the Buttocks depressed in order to effect easy and complete removal of any discharge by the Vagina or natural passages. If such precautions are not observed and if the lacerations were in certain situations the matter might more readily pass into the Peritoneum which should always be avoided if possible.

During the period of collapse stimulants must be administered, but with great care always bearing in mind the period of Reaction which is about to follow. Beef Tea, Wine or Ammonia may be given in small doses at
short intervals and a steady observation of the pulse must be attended to. Hot applications must be kept on the feet, while cloths wrung out of warm water and medicated may be applied to the abdomen.

If any signs of inflammation set in, recourse must be had to anti-inflammatory remedies, such as calomel and opium. If the pain in the abdomen become intense and tympanites exist, blood must be extracted locally by the application of leeches in large numbers, or general blood-letting may in some cases have to be performed.

Under such treatment patients may sometimes recover, but statistics prove that proportion of deaths far to exceed the number of cures. Nevertheless, where even one life in a thousand can be saved it always ought to be our duty and interest to assist nature in effecting a cure. —