Thos. Baxter, Jr B. C. Jr.

# Vaginal Cesarian Section.

## Introductory.

A method of emptying the pregnant uterus which is at once safe to the mother and child, applicable at any stage of pregnancy, capable of being rapidly performed, not specially difficult in its technique and requiring but little assistance, is one that should receive the most careful consideration from the practitioners of our art. How frequently has the anxious physician to stand by the bedside of his parturient patient, who is laboring under alarming disease and fervently wish that she should be relieved speedily of that burden which oftimes is the cause of such grave danger? However much he may be opposed to interfere with a process which should be a physiological one, there comes a time in the experience of everyone when interference is imperatively called for.

When there is no cause for extreme urgency, and when the practitioner can give plenty of time to the procedure he can induce labour by the various well tried methods which long have been practised; but when immediate delivery is for any reason required he must replace this by a process which is quite distinct from the process of natural labour, and goes under the name of artificial delivery or accouchment forcé.

Accouchment forcé is distinguished from the induction of labour principally because the patient takes only a passive part in the process and it is used when for any reason her assistance cannot be given, or would be given too late.

The methods of performing accouchment forcé have become increasingly popular in recent years when delivery is possible per vias naturales, they are briefly these:—

(1) Manual dilatation of Cervix
(2) The method with branched metallic dilators.
(3) Multiple incisions of cervix
(4) Vaginal Cæsarian section.

Generally we have a free choice between these but for reasons that will be fully discussed later, I hold that we have in Vaginal Cæsarian section the method which above all others is most generally suitable, when accouchment forcé is demanded.

Ref. Fehrsen:
Ueber den Werth der tiefen Cervix und Scheiden-~~Damm~~Einschnitte in der Geburtshülfe Archiv f. Gyn. 1890. XXXVII. 27—66.

# Historical

The operation to which I would particularly draw attention was first performed by Aconci[1] who in July 1895 performed the operation in a case of cancer of cervix and followed the operation up Vaginal Hysterectomy six weeks later. But it was at first brought under the notice of the profession generally by Dührssen.[2] This latter operator first performed it in 1896. It must be carefully distinguished however from another operation freely advocated by Dührssen in accouchment forcé and which has long been in use namely multiple incisions of the cervix. Shortly after Dührssen Bumm Rubl and some others in Germany took it up and improved its technique, but it is only recently that the operation has attracted attention in this country.

Ref. 1. Holmes (Surgery Gynecology and Obstetrics December 1906.)
(2) Der vaginale Kaiserschnitt Berlin 1896.
allgemeine Deutsche Hevt Zeitung 1895
Zw. Band S.
Winckels Handbuch der Geburtshülfe.

Munro Kerr[1] was perhaps the first in this country to advocate it although there was previously an article in English on the operation by Stamm[2]. Brewis[3] contributes also to the literature on the subject but it has not received the attention it deserves, possibly on account of the other methods of performing accouchement forcé which were introduced about the same time by means of the dilators of Bossi and de Seigneux.

References.

(1) Journal Obstet & Syn. of the British Empire Vol. 5. No. 3. 1905.

(2) American Journal of Obstetrics Nov. — 1903.

(3) Scottish Med. and Surgic. Journ. September 1907.

# Comparisons between Vaginal Cesarian section and the other methods of performing Accouchement forcé.

I would like first to state some advantages of the operation about which there cannot be any difference of opinion.

1. Mortality: In the absence of sepsis there cannot be any mortality. The time taken is short, no large vessels can be damaged, and peritoneum is not opened.
2. Rapidity: The operation can be done at the very outside in a quarter of an hour, many operators have done it in six minutes.
3. The Instruments required are few.
4. The Assistance required is not greater than in putting on forceps.
5. No condition of the Cervix, whether rigid lacerated previously, taken up or not taken up, offers a contra-indication.
6. Applicable at any stage of pregnancy. Where P. is in least intimate connection and where blood vessels smallest.

7. Uterus is attacked at least vulnerable part.

Comparison with manual dilatation.

This method which is very popular in America necessitates the getting first of a finger into the Cervix. This may be impossible without other aid. It certainly requires no instruments. It is slow. In many cases it cannot be performed inside half an hour. You have no control over the lacerations which are frequently produced. Very tiring for the hand, and quite impossible at times.

Comparison with metallic Dilators.

This requires an expensive instrument. Cannot be performed inside twenty minutes and frequently requires an hour or two. You have no control over the site of laceration of the Cervix but here a certain operator specially recommended in multiparae to increase an old laceration, as I have seen rather than produce a general dilatation of the Cervix.

applicable only when Cervix taken up at end of pregnancy!

1. Munro Kerr.

Comparison with Multiple Incisions of the Cervix

Here you are not choosing the best vulnerable part of the uterus

Is only applicable when cervix drawn up.[1]

1. Munro Kerr.

# The Operation

## 1. Surgical Anatomy.

The parts concerned are well seen in a sagittal mesial section of the full time pregnant uterus such as in Waldeyer's section before Labour in the frontispiece of Barbour's Anatomy of Labour, or more clearly still in the illustration opposite taken from a paper of Berry Hart.

The Body of the Uterus above, with its walls of pretty uniform thickness except at the lower part in front where they become considerably thinner ends below in the Cervix which contrasts strongly with the body of the Uterus by the thickness of its walls. Besides having thicker walls the cervical musculature is closely felted and differs in this respect from the muscle of the Uterine body which can easily be separated into longitudinal plates.

It is this thickness and toughness of the muscle of the cervix that offers the greatest resistance in gaining access to the uterine cavity above.

The Cervix a narrow tube 1½ inches (4. cm.) long projects into the vagina one third of its anterior lip and two thirds of its posterior lip hanging free in

this cavity.

The Fœtal membranes. lie on the entrance to the cervix above and are only loosely attached to the inside of the ~~of the~~ uterine body around this for about 6. c.m.

The Vagina. joins the cervix in front at the junction of it's middle and lower third and the shallow dip of mucous membrane where this junction takes place is well seen in the illustration. Between this the anterior fornix and the Bladder there is only a very little cellular tissue in which run some large veins. The close relationship between anterior fornix and bladder must be kept in mind in making the first incision in Vaginal Cesarian Section.

The Bladder lies below and behind the symphysis, but runs up to slightly above the upper limit of the cervix even in its empty condition.

Cellular tissue containing some veins intervenes between bladder and cervix joining the structures loosely together. This junction is closed at the anterior fornix.

The Peritoneum in front is attached firmly to the Uterine body but for inches above the cervix this attachment gets looser and leaving the uterus at the level of the internal os it again attaches itself loosely to a small portion (1½ inches) of the upper and

back wall of the Bladder before passing on to the anterior wall of the abdomen. This loose attachment of peritoneum below admits of its being stripped off the lower part of the uterus and back of the bladder in operating from below.

The Peritoneum behind closely invests the uterine body and the upper third of the cervix. As the posterior vaginal wall here joins the cervix the peritoneum here passes for a short distance on to the back of this structure before turning backwards above to invest the rectum behind, and forms by this reduplication the floor of the well known pouch of Douglas.

Little or no cellular tissue separates the peritoneum here from the posterior wall of the genital canal. The relationship is intimate and hence the difficulty of stripping off the peritoneum here without damage. The rectum behind is only separated by layers of peritoneum from the vagina. The Uterine and Ovarian arteries supply the uterus. These branches are smallest in the middle line which fortunately is the position of the principal incision in the operation.

The Utero-Vaginal plexus of Veins must be remembered in the cellular tissue between the cervix and bladder in front.

They together with the arteries are greatly enlarged in pregnancy.

The Lymphatics form a large and close plexus everywhere in the uterine wall below the peritoneum.

1. Laboratory Reports, Royal College of Physicians Edinburgh. Vol. II, p. 88. plate XVII.

## The Operation described

as a preliminary I would urge the immense importance of conducting this operation as indeed all operative midwifery on as rigid antiseptic principles as the circumstances permit. The general practitioner who necessarily in his practise comes in contact with all kinds of septic conditions cannot ~~unconsciously~~ conscientiously attend a lying in woman without covering his septic clothes with an aseptic operating coat He cannot be certain of rendering his contaminated hands sterile however long he may take in an endeavour to do so. He should therefore always use sterilized rubber gloves. acting on this principle I have used rubber gloves for the past ten years in obstetric work. Recently Giles and Victor Bonney[1] have urged their general use, but it is interesting to note that so long ago as 1857, when speaking of puerperal fever and its prevention the learned Thomas Watson[2] says "In these days of ready invention a glove I think might be devised which should be impervious to fluids and yet so thin and pliant as not to

1. Med. Annual 1908.
2. Principle and Practise of Physic Vol. 2. p. 384.

interfere materially with the delicate sense of touch required in these manipulations. One such glove shall ever be fabricated and adopted might well be sacrificed to the safety of the mother, in every labour."

Such a glove has been devised which luckily will do for many a labour and I think it is the duty of every practitioner to use it for the safety of the mother.

Taking then every antiseptic precaution himself the operator must likewise make his patient as aseptic as possible. She should have a bath if not too ill before the operation. The rectum should be washed out with an enema. The patient having been put in the lithotomy position the external genitals should be shaved and well scrubbed with soap and water. The muco-cutaneous junction of the labia minora where germs flourish should be thoroughly cleaned. The parts should thereafter be thoroughly washed with an antiseptic such as 1 in 2000 Corrosive sublimate this applied in quantity by means of a douche is an

1. Tweedy and Wrench Rotunda Practic. midwif. Page 89. 1908.

excellent way of cleaning the parts. Finally the vagina should be thoroughly flushed out with the corrosive and its wall well rubbed with gauze while the fluid is running.

Instruments:- Posterior vaginal speculum, two cervical volsella, large pair of sharp pointed scissors with blades set at an angle, a large curved needle, catgut, and one or two artery forceps.

Assistant: Besides the chloroformist a nurse with some knowledge of antiseptics is sufficient.

Procedure: The patient being thoroughly under the anaesthetic, empty bladder with a catheter, put in posterior vaginal speculum and give it to nurse to hold. Grasp anterior lip of cervix with volsella on either side of the cervix. Grasp these two volsella with left hand keeping the cervix as near the vulva as possible and with a pair of scissors in the right hand nip the mucous membrane at the junction of the cervix and vagina in front horizontally for about an inch on either side of

middle line. Lay down the scissors and pass the right fore finger into this incision and strip the bladder off the cervix. If you pass a catheter into the bladder, and turn its point back you will better be able to locate the bladder and be sure it is being turned out of harm's way. Now give both volsella to nurse and ask her to keep pulling them well down. Pass left fore finger into the cervix and divide its margin with scissors in front between the volsella. Pass finger further into cervix and running back blade of scissors along this finger as a guide snip more of the cervix. Continue pressing with the fingers and cutting with scissors until you feel the internal os has been severed. The feeling when the internal os has been severed is quite characteristic. It has a grating sensation which can be both heard and felt.

In my experience the point to remember is in cutting through the cervix to keep the points of the scissors as close together as possible and consequently closely applied to

the hard cervix being guided in this by the left fore finger. The closer you keep to the cervix especially with the front blade of the scissors, the less chance there is of injuring the bladder.

Hemorrhage is a rule slight and can easily be controlled by pressure forceps.

Delivery of the Child Remove speculum volselle and artery forceps and make a bimanual examination. If you have kept close to the cervix in making the uterine incision the foetal membranes will be intact and on pressing the fundus with the left hand, these will bulge into the vagina. Make out the presentation and position of the foetus and decide how it can best be removed. It appears to me that turning is by far the preferable procedure as the cervix in this condition is not drawn up as it should be in an ordinary case of labour before forceps are applied, and consequently it would be apt to get

caught by the blades of the forceps and be apt to increase their difficulty of application. They may be justified if a living child is particularly desired. Usually it is better to turn, draw down the limbs and trunk and if the child is dead perforate the head and deliver so as to avoid any unnecessary tearing of the uterus.

The placenta may be delivered by expression or manually. If the child is dead and decomposing give an intra uterine douche. You may also have to give a hot intra uterine douche for hemorrhage, but in Eclampsia and heart disease hemorrhage is often beneficient. At this juncture a catheter should be passed into the bladder to see if any water has accumulated in the bladder during the operation a proof that it is water tight. If urine comes away pass the catheter about to see if it passes through any hole that may have been made into the bladder. Stitch this up at once.

Sewing up the Incisions: The uterine incision must first be stitched for this I have found a perineum needle with a long handle most suitable. Put in posterior vaginal speculum and grasp cervix on either side with volsellum and pull it down, with needle threaded with catgut put stitch in uterine incision as high up as possible. Use this stitch to pull cervix further down and put in another one or two stitches as may be required above this one. Continue stitching with interrupted sutures below down to os uteri one or two stitches close to the horizontal incision in anterior fornix.

Put gauze drain in vagina, pad of wool over the external genitals and perineal bandage over all.

After treatment: Remove bandage and drain in twelve hours and see if she can pass water. If not pass a catheter Replace drain for another twelve hours. after that a drain is unnecessary. If discharge becomes foetid a very gentle douche may be necessary.

## Modifications.

The above is a description of the operation as I have seen it done and as I have done it.

Ruhl[1] makes an excellent suggestion. He as a preliminary dilates somewhat the cervix manually or mechanically. This takes a little time but it renders a shorter uterine incision necessary the bladder does not require to be reflected so far and there is less chance of the lochial discharge being retained on stitching up the cervix. Dührssen in operating near full time recommends that the posterior lip of the cervix should also be split. It is first split up in the middle line as far as the vaginal insertion. The posterior vaginal vault is divided transversely and a retractor pushed through the opening. The peritoneum of the pouch of Douglas is then pushed off the posterior uterine wall.

1. Zentral. f. Gyn. Leipzig 1904.

He then attacks the anterior wall of the cervix in the way I have described, and splits up anterior and posterior walls to such an extent that the incisions will allow the easy passage of a large fist. In view of the close attachment of peritoneum behind and the danger of opening it when pushing it up, I think that unless urgently demanded we should leave the posterior uterine wall alone. Bumm says that he has found the incision in the anterior wall sufficient even in full time cases. If the vagina is small it should be enlarged by an incision along the anterior part of the perineum.

Note Bumm and Döderlein have simplified the technique of procedure as described in the text books by omitting the vaginal incisions and the detachment of the bladder. They simply split the anterior wall

1. Cent. f. Gyn. 1908. Nr. 31. S. 1027.—

of the cervix and then apply traction to the cut edges on each side and then pull down a higher portion of the wall which is in turn split. Then a higher piece is pulled down and so on until the incision has extended as far as is required.

The bladder thus detaches itself and with downward traction there is less hemorrhage than if it were separated by the fingers.

## Cases

I have had personal experience of the operation on two occasions.

### Case. I. Uremia and Pregnancy.

Mrs. Q. aet 32. A baker's wife. I was asked to see on Sept. 25, 1908 on account of severe headache and vomiting.

General Medical History: she had been a delicate child and suffered from Scarlet fever at the age of ten. Since that time up to her marriage at the age of twenty three she was quite healthy, and never required to see a medical man.

Obstetrical History: she had her first child at the age of twenty four and her second when she was twenty six. In the fifth month of both of these pregnancies she suffered from headaches and vomiting. Both labours required chloroform and instruments. When twenty nine years of age she became pregnant for the third time. She suffered from headache, vomiting, and swelling of the feet during the seventh month of this pregnancy and was then delivered of a premature child which lived a week.

Her present or fourth pregnancy was

advanced to the sixth month when I saw her on Sept. 25. as was evident from her menstrual history and the height of her fundus. She had been sick and vomiting occasionally for a day or two. Her face and legs were ædematous. She was passing about forty ounces of urine in the twenty four hours, and it contained a fair amount of albumen. She could not sleep. There had been no fits.

Ophthalmoscopic examination showed no albuminuric retinitis.

She was ordered a milk diet, copious purgation, five grains of thyroid extract thrice a day, and I gave her a hypodermic injection of morphia to make her sleep.

This treatment was continued on Sept 26, 27, 28, and 29, but her condition gradually became worse. On the afternoon of Sept. 29 she was very ill. Had not passed more than eight ounces of urine during the previous twenty four hours and this was loaded with albumen. Her heart was not enlarged but its beats were rapid (130 per minute) and feeble. Her blood pressure measured 240 by Martin's Riva Rocci apparatus. Temperature was normal.

The fundus uteri lay below the umbilicus. No movement of the foetus could be felt. The head was at the brim. I could hear no foetal heart sounds. Patient had not felt any movement for four or five days. Per vaginam the Os was closed and the foetal head was felt above. No appearance of labour starting. The patient complained of great weakness and as the urine was getting very bad in quantity and quality and the uraemic symptoms increasing to an alarming extent, I decided to empty the uterus at once with my assistant who gave chloroform and two nurses. I tried to open the cervix by Bozis dilator. There were two old lacerations on either side of the cervix, and on opening the blades of this instrument these tended to tear further. As I could not obtain by this method a general dilatation of the cervix without using undue force and running the risk of deep lateral laceration of the cervix I decided to desist further in the use of this instrument, and proceeded at once to do Vaginal Cesarian Section. I succeeded in opening the uterus by the vertical incision in front

without injuring the foetal membranes, and on pressing on the fundus these latter bulged into the vagina. I ruptured them, turned the foetus, and delivered its trunk and limbs. as these showed signs of decomposition, to avoid the risk of leaving the head in the uterus, I perforated and delivered the after coming head with great ease. The placenta which I previously felt when turning to be floating free in the amniotic cavity, I delivered together with the membranes, manually. Thereafter a hot intra-uterine douche was given. Very little blood was lost at any part of the operation.

I stayed with the patient, who slept well all night and to my great satisfaction in the morning drew off in a vessel four ounces of urine containing only a trace of albumen, and found the patient quite free from her uraemic symptoms.

Next day the urine was quite free from albumen, and with the exception of some fever the patient made a most satisfactory recovery.

Her blood pressure which was unfortunately not taken again for a month after the operation was then only 140.

## Points of interest in this Case.

1. The gradually increasing failure of the kidneys in each succeeding pregnancy so that during her last one she was unable to nourish a living child beyond the sixth month.

2. The increase in the uraemic symptoms even although the child was dead and unattached to the maternal blood-stream by the placenta. This is opposed to the theory that albuminuria is caused by fetal metabolisis as advocated by Barbour.[1]

3. The importance of the mechanical bulk of the uterus in keeping up the nephritis as evinced by the sudden disappearance of the albuminuria on delivery.

4. The danger of increasing the existing lacerations of the cervix in multiparae when using a Bossi's dilator. It is in multiparae that this instrument is specially recommended.

5. The high blood pressure (240) during the uraemic symptoms. Here the uraemia was acute, and, after delivery as the blood pressure probably soon fell to 140, I am opposed to the view of Russell[2] that high blood pressured readings are permanent and due to thickened arterial walls.

References. 1. Anatomy of Labour.
2. Arterial Hypertonus.

# Case II. Eclampsia Gravidarum

Mrs. R.M. aet 35 a civil servants wife came to Walthamstow about the end of June 1908. She had suffered from ague in India and decided to remain in Walthamstow till September to be confined under my care. about the beginning of July i.e. when over six months pregnant her husband asked me to examine her, as her ankles were swollen and puffy. The urine I examined contained a little albumen.

She was ordered a strict milk diet, to drink plenty of water and take thyroid extract (grs. v. t.i.d.)

The albuminuria did not diminish under this treatment and I was asked to see her again on July 11.

I found her on this date well and cheerful; all her organs except her kidneys appeared healthy. Her blood pressure was only 140. Next day (July 12) she had some headache and puffiness of the eyelids The symptoms continued on July. 13 and at 4. A.M. on the morning of July. 14 I was called to find her in convulsions. The last urine passed was loaded with albumen.

she continued to have fits from time to time being comatose in between until mid-day. as there was no sign of the uterus emptying itself and her condition seemed critical, I resolved to empty the uterus at once by Vaginal Cesarian section in the event of being unable to do so with Bossis dilator. She was put under chloroform and as little progress was made with the Bossis dilator, Vaginal Cesarian section was performed. The anterior uterine wall was incised and the child which presented by the breech delivered. Here again the after coming head was perforated to prevent unnecessary laceration. The placenta and membranes were expressed. The hemorrhage was slight, no vessels required ligation. Patient only had two further fits which occurred on the afternoon of the day of the operation. They did not recur thereafter. Next day the albuminuria was much diminished and entirely disappeared two days after the operation. Consciousness was regained the day after the operation and the patient

thereafter made a rapid and
uninterrupted recovery.

## Points of interest in this case

1. The suddenness of the onset of the fits without much uraemic symptoms.
2. The difficulty of dilating the uterus in a primipara with Bossi's dilator.
3. The rapid cessation of the fits after delivery
4. The rapid disappearance of the albuminuria after delivery.

Two cases such as I have just described occurring within three months of one another and benefiting so markedly from the operation are very gratifying and lead me to believe that the operation has some most useful applications. These I should like to now examine in detail.

# Indications for the operation.

They are briefly these :-

1. Nephritis with Uræmia and Eclampsia.
2. The Pernicious Vomiting of Pregnancy.
3. Severe Intra-uterine bleeding in pregnancy.
4. Pronounced. rigidity or Cicatricial stenosis of the cervix in pregnancy.
5. Uterine displacement where the cervix cannot be opened on account of misdirected uterine action.
6. Cancer of the Uterus.
7. Myoma of the Uterus.
8. Severe Heart disease in pregnancy.
9. Severe Lung disease in pregnancy.
10. Certain general diseases.
11. In lieu of the Classical Cesarian Section in the dying or dead.

## I Nephritis with Uraemia and Eclampsia.

These indications I would like specially to examine because it is here that I have obtained my experience of the operation. At exactly what point we should interfere in these cases is a very difficult matter to decide. With a view to getting at this point I would divide the cases of Nephritis which we meet in the pregnant woman into three clinical groups as has been done by French[1] but before doing so I would like to range myself with those who regard the kidney changes in pregnancy as essentially similar to those that occur say in scarlet fever. Post mortem it appears to be impossible to distinguish a pregnancy nephritis from a scarlet fever nephritis.

The Clinical Groups are

1. Cases in which renal mischief of the nature of Bright's disease has been known to exist before pregnancy
2. Cases in which previous to pregnancy the urine was perfectly healthy but in which during pregnancy beginning as

1. British Medical Journal May 9 1908.

a rule at or before the middle of pregnancy, puffiness of the ankles, back and eyelids appear. The urine becomes less in quantity and contains albumen, tube casts and possibly blood in a way which closely simulates ordinary acute Bright's disease.

3. Cases in which the patient has seemed to be in perfect health until the later months of pregnancy or even until immediately after labour and then without much warning, and usually with only slight evidence of oedema develop the well known symptoms of puerperal eclampsia.

## Groups I in relation to treatment.

It is a remarkable fact that some patients have been known to have persistent Bright's disease before pregnancy and to live to have many children even in spite of exacerbations of their renal mischief which occur during each pregnancy.

Such cases are exceptional and they should not prevent us from advising against marriage in all cases of chronic nephritis.

Dührssen[1] says the Eclampsia is quite exceptional in these cases. In view of the generally recognised fact that cases of Chronic Bright's disease stand operations of all kinds very badly I should hesitate to terminate pregnancy here by any operative procedure. Spontaneous abortion is very common and we should wait for this to occur. Eclampsia as I said was rare and did not urge us to break this rule.

Ref. 1. Manual of Obstetric Practise.

## Groups II in relation to Treatment.

We may reasonably lay down the proposition that the nephritis arising in cases of this group is due to the presence of an enlarged uterus containing a foetus. Nothing else can account for its incidence. The foetus doubtless acts by giving the maternal kidneys more work to do and the enlarged uterus acts mechanically by raising the general intra abdominal pressure and hence increasing the pressure on the kidneys from without, and indirectly by pressing on the uterus and so increasing the pressure on the kidneys from within.

I am convinced that by far the most important factor is the mechanical pressure from the enlarged uterus. No one who has observed closely a case such as the one I have recorded (Case I) in which with a dead foetus and separated placenta that presumably were giving no work to the maternal kidneys to do, less and less urine containing more and more albumen, was being passed by a woman suffering from increasing uremia and who found on emptying her uterus that the uremia and albuminuria practically disappeared inside twenty four

hours will hesitate for a moment to declare that the enlarged uterus is the predominant cause of the danger to the mother.

Such being the position I take up here, I hold that when every reasonable medical treatment has failed to mitigate the uremic symptoms, when the albuminuria still continues or increases, when the woman is becoming progressively weaker, with a failing heart laboring to overcome increasing blood pressure, we should not delay a moment to empty the uterus. The older methods of inducing labour are here too slow and as these together with every method of performing accouchement forcé require an anaesthetic, I strongly advise vaginal Cesarian section in this class of case, on account of its safety, rapidity, and its applicability in every case where an operation per vias naturales can be performed.

It must not be supposed that a big proportion of cases belonging to this group ever present alarming symptoms demanding accouchement forcé. The patient referred to in Case I went through three pregnancies with symptoms that never became alarming. Many cases miscarry

as she did in her third pregnancy.
multiparae and twins are more liable to be effected, and here again miscarriage is common.
The various text books of midwifery give us little assistance as a rule!—

1. Tweedy and Wrench[1] devote less than a page to the consideration of albuminuria of pregnancy apart from Eclampsia. They do not indicate that it ever requires interference.
2. Clarence Webster[2] insists that the following symptoms point imperatively to the induction of delivery, Visual disturbance continued headache, pulmonary or other marked oedema, marked cardiac disturbance, frequent nose bleeding, and continued casts and albumen in the urine. He further states that a number of cases so well respond to treatment that the woman may go to full term and be delivered of a healthy child.
3. Spiegelberg[3] says if albuminuria resists all rational methods of treatment, if its sequelae threaten life it may be necessary to bring pregnancy to a close. Such an albuminuria he always considers a consequence of nephritis. I do not see how it could otherwise be.

1. Rotunda Pract. Midwif. 1900.
2. Text Book Obstetrics 1903.
3. Text Book Midwifery translated by Storry. 1887.

4. Dührssen[4] also distinguishes between albuminuria with and without nephritis, but does not state how to do so. He considers headache severe epistaxis or circulatory disturbance indications for emptying the uterus.

5. Playfair[5] is of all the most emphatic on the subject; he says with regard to emptying the uterus "I believe that having in view the undoubted risks which attend this complication the operation is unquestionably indicated and perfectly justifiable in all cases attended with symptoms of serious gravity. I should not hesitate to adopt this recourse in all cases in which the quantity of albumen is considerable and progressively increasing and in which treatment has failed to lessen the amount, and above all in every case attended with threatening symptoms such as severe headache dizziness and loss of sight. The risks of the operation are infinitesimal compared with those which the supervening of chronic Bright's disease becoming established."

Ref.
4. Manual of Obstetric Practice translated By Taylor and Edge.
5. Science and Practise of Midwifery Ninth Edition Vol. 1.

albuminuric Retinitis is liable to occur in these cases.[1] French[2] in 71 cases belonging to this group observed 13 cases with albuminuric retinitis. Two of these dying. Ten others of this group which were examined for it, and it was not observed did not die. In view of this high mortality albuminuric retinitis would especially urge us to empty the uterus.

Phiard[3] recommends emptying the uterus when the urine falls in amount below 1000 cc. in twenty four hours.

Ref. 1. Medical annual 1897 Page. 157.
2. B. M. J. May 9. 1908.
3. Ann. de Gyn. Paris. Nov. 1902.

# Summary.

A. Emptying the uterus is especially called for in cases belonging to this group.

(1) When the urine continues to diminish and the albuminuria to increase in spite of general treatment.

(2) Albuminuric retinitis calls for interference at once.

(3) Rapidity and weakness of the action of the heart with increasing blood pressure as measured instrumentally, demands inference.

B. Vaginal Cesarian Section is here the most generally useful operation:—

(1) Because of its low mortality

(2) Because it can be most rapidly performed.

(3) Because it is applicable in every condition where delivery per vias naturales is feasable.

(4) Because of its simple technique.—

Group III. In relation to treatment.

## Eclampsia Gravidarum

Whether Accouchment force is a justifiable operation in this condition has given rise, and doubtless will continue to give rise to an enormous amount of discussion, the whole question is well summed up by Sikes, Dührssen, Meyer, Wirtz, Fehling, Snyder, Zweifel, Flockner, Fumm, Olshausen, and Halbertsma, strongly favour the operation, and it is as firmly opposed by Herman, Morawetz, Gusch Veit and others.

Looking at this formidable disease from the point of view of its etiology, all are agreed that it occurs most frequently in primiparae and where the uterus is occupied by twins and therefore a large uterus occupying the necessarily small abdominal cavity of a primipara will evidently be most likely to produce directly and indirectly some pressure on the maternal kidneys, and this should surely be given the most careful consideration in treatment. The other etiological factors I will not discuss as they unfortunately help us little in battling with the disease.

1. Practitioner. London May. 1905.

although denied by Herman most authorities are agreed that the fits cease soon after delivery, as happened in Case II which I have described.
Etiologically and clinically then I hold we have strong grounds for having the uterus emptied at once.
Two of the strongest and most recent opponents of this view are Hastings Tweedy and Wrench.[2]
They argue:-
(1) If accouchment forcé is performed during the convulsive stage of Eclampsia it increases the irritation of the poisoned nerve centres.
(2) Sepsis is liable to arise after it.
(3) No statistics have yet been published which show its superiority over the treatment adopted by those writers which is:-
(1) Instrumental delivery by forceps and turning where possible.
(2) The avoidance of increased metabolism by morphia hypodermically and starvation.
(3) Eliminant and Excretory treatment
In answer to the first objection to accouchment forcé I would urge that their first indication

Ref
1. System of Medicine Vol VII
2. Rotunda Practical Midwifery p. 150.

for treatment (forceps and turning where possible) leads one to believe that they wish the uterus emptied as quickly as possible. It cannot be denied that forceps and turning frequently require a good deal of manipulative interference which is not unlikely to increase "the irritation of the poisoned nerve centres".

In answer to the second objection I would say that Sepsis has been known to arise from and after forceps and turning, and that with a rigid aseptic technique, sepsis should not arise after any manipulative interference, accouchment forcé or otherwise. Thirdly with regard to their statistics a mortality of 19% shows good results, but statistics (as Hippocrates said in reference to Experience) are "fallacious" especially in this disease where so many mild cases occur, which cases being all put on the side of those who advocate the Expectant treatment, as nobody would think of interference here. Statistics however have been collected which show a lower mortality under active treatment than those of Tweedy and Wrench.
Bumm had 112 of these in his practise.

1. Munchen. Med Wochen. No. 21. 1903.

The first 47. treated by narcotics had a mortality of 30.%.
The next 43. treated by Venesection and Transfusion had a mortality of 30.%.
The next 25. treated by immediate delivery and had only a mortality of 12.%.
He favours Vaginal Cesarian Section in all cases and reports fourteen cases so treated with only one death.
Dührssen[1] proved that 93.75% of cases of eclampsia the fits cease at once or very soon after delivery and predicts that the mortality after operative interference will go down markedly if delivery is effected at once after the first fit is noticed.
He further states that the facts upheld by Schauta that operation makes the prognosis worse in eclampsia is only true when the delivery takes place without deep anaesthesia.
Deep anaesthesia will further dispose of the objection of Tweedy and Wrench that accouchment forcé will increase the irritability of the poisoned nerve centres.
The enlarged uterus is here the principal cause of irritation and we do not hesitate

1. Manl. of Obstetric Practice. 1897.

in other realms of medicine to use another irritant acting sharply and quickly, to get rid of another long lasting and dangerous one. Morphia which has given such excellent results at the Rotunda with Tweedy and Wrench can only act in a palliative way. Doubtless it lessens metabolism as they hold but it appears to me to act also by diminishing muscular spasm in the abdominal wall and hence by diminishing intra-abdominal pressure. It will of course diminish the irritation of the poisoned nerve centres but it cannot but poison still further the nerve centres themselves. Moreover it is well known that morphia diminishes the activity of all the excretory organs except perhaps the Kidneys and is therefore opposed to the third for treatment laid down by Tweedy and Wrench ie. Eliminant and Excretory treatment.

The theory of Thyroid insufficiency as a cause of Eclampsia as advocated by Nicholson[1] has not given us very much assistance in the way of treatment. Thyroid Extract certainly acts as a diuretic in all kinds of nephritis and hence is of some value.

No other of the many theories

1. Journ. of Obstet. and Gyn. Vol II. 1902.

advocated has given us any reason that would prevent us from emptying the uterus. I therefore hold that immediately on the appearance of the first fit, should labour not be in progress we should, provided we have got assistance immediately empty the uterus by Vaginal Cesarian Section is the quickest and safest method of doing so, and it holds out the best chance for the mother in this formidable disease.

Simon[1] records a case in which he did the operation when dilatation by bags had failed as in Case I which I have recorded, he turned and perforated the after coming head to assist delivery. The mother recovered.

Bumm[2] records five cases. One mother died

Stamm[3] records two successful cases. In one a multipara instrumental dilatation was too slow. The other was a primipara. Both mothers recovered.

Brewis[4] records a case of Eclampsia at

1. Munchen Med. Woch No. 21. 1903.
2. Zentrablatt f. Gyn. No. 53. 1905.
3. American Journ. Obstetrics Nov. 1903.
4. Scott. Med. and Surg. Journal Sept. 1907.

the sixth month in which the mother recovered, and he quotes Veit who performed it in this disease thirty three times with one death, and Döhrssen who had 112 cases with a 15% mortality.
Westphal records a case at the sixth month where the mother recovered.
Leaving out of count Veit and Döhrssen's statistics, we have

| Author | Cases. | Recoveries | Deaths. |
|---|---|---|---|
| Simon. | 1. | 1. | 0 |
| Bumm. | 5. | 4. | 1. |
| Slawyk | 2 | 2 | 0. |
| Brewis | 1. | 1. | 0. |
| Westphal | 1. | 1. | 0 |
| My own. | 1. | 1. | 0. |
| | 11. | 10. | 1. |

1. Zentralblatt f. Gyn. No. 46. 1903.

These statistics alone or combined with those of Veit and Dührssen give a mortality of under 10 % or almost twice as low as the best published in favour of the ~~Expectant~~ Expectant treatment, namely 19 % as given by Tweedy and Wrench

Note. Olshausen's and Zweifel's statistics[1] prove too that active treatment gives the best results.

1. Whitridge Williams Obstetrics 1908. p. 543.

# Summary.

1. Most important etiologically from the point of view of treatment in Eclampsia is the enlarged uterus cavity pressing on the Kidneys.

2. No Theory of Eclampsia gives us any help in Expectant treatment.

3. Etiologically and Clinically we are persuaded that the best results are likely to ensue when the uterus is immediately emptied.

4. If labour is not in progress Vaginal Cesarian Section holds out the best chance for the mother.

## II The Pernicious Vomiting of Pregnancy.

The neurotic and reflex types of this affection need not be considered as they never call for the operation we are considering. The Toxemic type on the other hand demands careful consideration and has been recently ably dealt with together with the other two types mentioned above by Whitridge Williams.[1]

He finds this the commonest type of hyperemesis gravidarum and points out that in all such cases the amount of nitrogen in the urine excreted as ammonia is markedly increased and this increased ammonia coefficient he considers a means of diagnosing this type of vomiting and further that it gives us an indication for emptying the uterus.

In normal pregnancies and in reflex and neurotic vomiting the ammonia coefficient varies from 3% to 5%. In toxemic vomiting it reaches from 15% to 46%. He considers we should empty the uterus when this rises to 10% Unfortunately as Longridge

1. American Journ. of Medic Science Sept 1906. and Journ. of Obstetrics and Gyn. British Empire Nov. 1906.

points out[1] this coefficient is of value only when the urinary output of nitrogen is high. Hence the starvation which often necessarily results in hyperemesis gravidarum or on a proteid free dietary, the test is useless.

A skilled chemist working for forty eight hours is necessary to make the test. Taking this test if applicable as our guide and failing this, by a careful consideration of the symptoms and physical signs, we have diagnosed toxemic vomiting of a dangerous kind the uterus must be emptied. The value of this procedure was long ago pointed out by McClintock[2] who relates thirty eight cases in all of which the vomiting ceased after delivery.

The uterus as a rule can easily be emptied in the early months of pregnancy with the dilator and the finger or ovum forceps. From the fifth month onwards Vaginal Cesarian Section is a very suitable operation, as is shown in the following cases.

1. Journ. Obstet. and Gyn. British Empire July 1907.
2. Dublin Midwif. N.S. Vol. 14. 1878.

Brewis[1] records an interesting case during the patient's first pregnancy in January 1903 she was very ill with hyperemesis and spontaneously aborted with relief of the symptoms. She was again very ill during the third month of her second pregnancy in Decemb. 1905 and dilatation of the cervix brought relief. At the fifth month however, vomiting again set in causing great prostration and this was only relieved by Vaginal Cesarian Section

Munro Kerr[2] records another case in a multipara at the fifth month. Her Os was closed and rigid and as the pulse was 160, and very feeble he considered Vaginal Cesarian Section the only means of emptying the uterus in time to save her life.

Ehrendorfer[3] reports another case where vomiting continued from the third to the fifth month. He could not get the cervix dilated by tents and therefore performed vaginal Cesarian Section. The patient recovered. He records another similar case by Spinelli.

1. Scott. med. and Surgic. Journ. Sept. 1907.
2. Journ. Obstet and Gyn. of the British Emp. Vol v. No 3. 1903.
3. Zentrbl. f. Gyn. Leipzig No. 16. 1903.

## III Severe Intra uterine Bleeding in Pregnancy.

This as is well known may be of two kinds:—

(1) Bleeding from a prematurely separated normally placed placenta.

(2) Bleeding in Placenta praevia.

The former bleeding may be altogether concealed or may appear outside.

1. A. **Concealed Accidental Hemorrhage.**

This is mostly caused by a degenerate state of the uterine muscle and is usually a most dangerous complication of pregnancy. It is evident that we have in this condition bleeding going on in a closed cavity and the sooner that cavity is opened and the direct pressure applied to the bleeding points the better. no procedure can fulfil this ~~condition~~ indication with anything like the rapidity of vaginal Cesarian Section. I unhesitatingly recommend this operation here. It is recommended by Tweedy and Wrench who say that hysterectomy is hopelessly fatal in this condition. It is also recommended by Clarence Webster[2].

1. Rotunda Pract. Midwifery. 1908.
2. Text of Obstetrics 1903.

Bell[1] records a successful case. A bag having failed to relieve the hemorrhage he gave a saline venous injection and delivered the child by vaginal Cesarian section in six minutes

B. Revealed Accidental Hemorrhage.

Here we have several methods of treatment recommended but where the hemorrhage is severe I cannot see that vaginal plugging which has become so popular in recent years in the treatment of this condition can compare in scientific precision with opening the uterus by vaginal Cesarian section and directly dealing with the bleeding area if delivery of itself does not relieve the condition. Plugging the vagina at best can only act indirectly a hemorrhage here, and there is a considerable difference of opinion on how it does act.

1. Zentral f. Gyn. Nr. 47. 1901.

2. ## Bleeding in Placenta Praevia

Rapidity of delivery here is not called for and as a rule is dangerous. The cervix and lower uterine segment are here extremely vascular and to incise them would necessarily give rise to frightful hemorrhage, the absence of which recommends vaginal Cesarian section so strongly in other conditions. It is only right to add however that Dührssen[1] had a case of this kind where he performed the operation with success. He finally plugged the uterus with gauze after delivery to control the bleeding. Brewis[2] had another case successful in placenta praevia.

Zweifel[3] does not believe that vaginal or abdominal cesarian section can be used with advantage in this condition and with this I agree. It may be advisable when a living child is particularly desired.[4]

Ref

1. Zentral f. Gyn. No. 4. 1904.
2. Scott med. & Surgic Journ. Sept. 1907.
3. Munch. med. woch. Nov. 26. 1907.
4. Hammerschlag med. Clin. Apr. 26. 1908 (Hammerschlag).
Bumm Zur Frage der Eiimplantation auf den inneren Mutter mund Zentral f. Gyn. 1905. XXIX 4. 7.

In performing the operation in this disease I would suggest that two pairs of hysterectomy forceps might be applied to the cervix in front before incising it vertically. These could take the place of the volsellae for pulling down the cervix and would control the bleeding.

## IV. Pronounced Rigidity or Cicatricial Stenosis of the Cervix

The Constitutional Rigidity which occurs in elderly primiparae may necessitate the operation mechanical dilatation is here apt to cause severe laceration Bumm[1] records a case where fever and vomiting resulted in an elderly primipara long in labour from rigidity of the os which would only admit two fingers. The patient died but clearly on account of the operation being undertaken too late Rukk[2] relates another. The membranes were ruptured five days before the operation was undertaken. The child was delivered by forceps, necessarily so I expect on account of the waters having drained away. The vagina and lower uterine segment were badly torn but a living child was delivered and the mother recovered.

+ Cicatricial Stenosis: the result of operations sloughing or the application of

1. Munch. Med. Woch No. 21. 1903.
2. Zentral f. Gyn. No. 34. 1903.

Eschaotics is frequently a difficulty in labour. It cannot be overcome by any method so well as by vaginal Cesarian Section

Amion[1] records a case where in addition to cicatricial stenosis of the cervix, the vagina had previously been narrowed by anterior and posterior colporrhaphy. The perineum and posterior vaginal wall was first incised and vaginal Cesarian Section performed. A living child was removed by forceps. Brown is[2] relates a case where he had previously amputated the cervix for hypertrophy and erosion. When seen by him the os was closed and the lower uterine segment thinned and spread over the presenting part. He performed vaginal Cesarian Section and the patient made an excellent recovery.

1. Munch Med. Woch. No. 21. 1903.
2. Scott. Med. & Surgic. Journ. Sept. 1907.

## V. Uterine displacement.

Here the uterine action may be directed in such a way as not to bear on the os and cancellation of the lower uterine segment, result. In such a case the os may be displaced in such a way that it would be impossible to get any metallic dilator into it. Here the operation or a modification is the only one feasible.

Hennerstrom[1] relates a case in retroversion attempts at reposition having failed and signs of intestinal obstruction appearing. He incised the posterior vaginal and posterior uterine walls and removed a foetus 15 cm. long. The patient recovered.

1. Zentral f. Gyn. Leipzig No. 10. 1903.

## VI. Cancer of the Uterus

This condition when affecting as it so frequently does the cervix, offers difficulties in this operation, on account of hemorrhage and sepsis. The same may be said of natural delivery in this condition. Boni[1] deals with the subject at great length. He states that spontaneous abortion is not common in this disease when affecting the cervix. Tearing of the cervix uterine rupture and vesico-vaginal fistula may all result from natural delivery at term. Sepsis and exhaustion is apt to follow. He considers that the risks in delivery grow with the length of the labour. If one is not prepared to do the classical Cesarian section, the procedure that is most rapid and certain to overcome the rigidity in a cancerous cervix is undoubtedly vaginal Cesarian section followed by vaginal hysterectomy. Weber[2] records a case in a multipara at the ninth month, where the cancer affected the posterior lip of the cervix and vaginal wall. He performed vaginal Cesarian

Ref.
1. L'echo med. du nord May. 19- 1907.
2. Zentral f. Gyn. Leipzig no. 48. 1903.

section turned and extracted the child. Thereafter the uterus was removed per vaginam.

He collected thirteen cases of this operation two of whom died.

He insists on its value on account of peritoneum being opened low down. Vaginal extirpation he insists is greatly facilitated by the softness and dilatability of the parts which results from pregnancy.

In view however of the more extensive operations which are now being done by Wertheim and others for uterine cancer, perhaps the application of vaginal Cesarian section will never become popular.

## VII. Myoma of the Uterus

It can be of little use as a rule in this condition. It might be of considerable value apart from pregnancy, in removing a pedunculated fibroid from the inside of the uterus, if the usual means of dilatation were from any cause unsuitable, as in cicatricial stenosis of the cervix.

## VIII. Severe Heart Affections in the mother.

It is well known how any increase in the size of the abdominal contents such as fat, fluid, flatus or faeces increase the distress in the dyspnoea of heart disease. The pregnant uterus is no less potent a factor and it should be emptied when such dyspnoea become dangerous to life. Relief will not be called for until the uterus has entered the abdominal cavity. As the condition is usually urgent no quicker method of emptying the uterus than vaginal Cesarian section could be employed.

Mitral stenosis is of all heart affections the one that would most frequently call for interference. The dyspnoea which is there apt to exist at any time is especially aggravated and increased by the distended abdomen of pregnancy. The great danger which threaten these cases especially of heart disease during the third stage of labour at term first pointed out by Spiegelberg[1] and confirmed by Berry Hart[2].

1. Text of Midwifery.
2. Obstet Transact. Edinburgh 1887-87.

should urge us the more readily to interfere early in pregnancy, if any severe symptoms should arise. In such cases a less degree of discomfort from dyspnoea or other signs of cardiac weakness such as oedema weakness of the pulse and a diminishing blood pressure as shown by careful manometric measurements from time to time would make me undertake the operation any time after mid term.

I have however seen a severe case of aortic stenosis with mitral incompetence go through pregnancy in comparative comfort. She went through labour kneeling at the side of her bed with as little discomfort as any patient I have ever attended.

Heart disease resulting from degeneration of the cardiac muscle is luckily a rare complication of pregnancy as the disease usually supervenes when the child bearing stage is past.

Brewis[1] records an interesting case

1. Scott. Med and Surgic Journ. Sept. 1907.

where this operation was performed.
His patient was five and a half months pregnant and had not had any sleep for some weeks from dyspnoea, arising from mitral stenosis and incompetence.
Vaginal Cesarian section was performed greatly to the patients relief.

## IX Severe Lung Disease

These diseases being mostly due to infections germs we should hesitate here to undertake an operation either before or after full time. There is in pneumonia a 50% mortality during the puerperium and with such a high death rate we should endeavour to get the patient safely through a pneumonia before the advent of labour. One can understand the high mortality in the puerperium in this disease when it is remembered that the pneumococcus is such a common cause of puerperal fever. I had recently a multipara who was delivered prematurely of twins, one a bed occupied by her child who was suffering from pneumonia. I had to remove the placenta manually on account of post. partum hemorrhage. In spite of my wearing sterilized gloves and using every antiseptic precaution possible she developed sepsis and did not recover for some weeks. Such an experience makes me dread interference in the vicinity of the pneumococcus.

1. Fullerton. Practitioner march. 1905.

In Tuberculosis it should only be used in the advanced stages of this disease where at full time a living child is especially desired.

# X Certain General Diseases

In Chorea Gravidarum - no experience has shown that this operation is any value. French and Hicks[1] consider the mortality in this disease has been exaggerated. They find a rise of temperature of grave significance in this disease and interference is too late when this occurs. Rideaux[2] is against interference and so is Fletcher Shaw.[3]

In Epilepsy: Jardine[4] relates a case operated on by vaginal Cesarian section by Munro Kerr which was not at all relieved by the operation

In Diabetes. all operations are contra indicated.

Ref. 1. Practitioner London. Aug. 1906.
2 La. Clin Aug. 30 1907.
3. Journal Obstetrics & Gyn. of the Brit. Empire Apr. 1907.
4. Journ. Obstet & Gyn. British Emp. July 1907.

## XI In Lieu of the Classical Cesarian Section in the dying or dead.

Delivery per vias naturales will always be looked upon by the laity with less opposition than delivery which requires a wound in the abdominal wall.

For this reason and because there is not a great difference in the time taken to do these two operations, I would recommend Vaginal Cesarian Section when there is any objection taken by the relatives to delivery by the classical procedure.