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VAGINAL CAESAREAN SECTION.

By JOSEPH B. DE LEE, Chicago,

PROFESSOR OBSTETRICS, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL; CONSULTING OBSTETRICIAN TO COOK COUNTY HOSPITAL; ATTENDING OBSTETRICIAN TO MERCY, WESLEY AND PROVIDENT HOSPITALS, AND CHIEF OBSTETRICIAN, CHICAGO LYING-IN HOSPITAL AND DISPENSARY.

Definition.—Vaginal Caesarean section is a term applied by Duehrssen to an operation performed in the later months of pregnancy, procuring an opening in the uterus by incising the vagina, cervix and lower uterine segment anteriorly and posteriorly, whereupon the child is delivered through this passage, after which the incisions are closed.

Another title of the operation is colpo-hysterotomy, anterior and posterior.

In the practice of obstetrics the necessity of rapidly emptying the uterus not seldom presents itself. The frequency with which the indication to rapidly terminate pregnancy arises is a point much discussed. It varies greatly in the practice of different accoucheurs. The hardest question to answer in a given case is, shall we or shall we not empty the uterus? If we possessed a method, rapid, easy and safe for mother and child, the decision would not be so difficult. If the authorities were agreed on the plan of treatment of the various obstetric emergencies, the decision would be easier. If the obstructions to the rapid emptying of the uterus were uniformly great, or always similar, one could formulate rules for general guidance.

But since we are forced to accept conditions as we find them, the placing of the indication for the emptying of the uterus will always be a personal one and individual to the case in hand. Still

there are certain general principles involved which, with the published experiences of men commanding large series of cases, give us fairly accurate lines on which to direct our treatment.

The most common indication for rapidly evacuating the uterus is eclampsia, yet authorities are divided on the propriety of the operation. Duehrssen, Bossi, Leopold and others favor the termination of pregnancy very early in the course of the disease, while Ahlfeld, Stroganov and others counsel a more expectant plan of treatment and claim better results. The large statistics seem to prove that both the mothers and the infants do better by the rapid delivery. In the writer's experience with eclampsia the results as concerned the mothers are no better than when he employed a more expectant plan, but a larger number of children are saved by earlier interference.

Heart disease will very rarely indicate immediate delivery. Almost always one may await at least complete cervical dilatation. Placenta previa is almost never a condition demanding the rapid evacuation of the uterus. One must terminate pregnancy, to be sure, but by methods not within the scope of this paper, i. e., the rapid emptying of the uterus. Slow methods should prevail in placenta previa. In very rare instances of placenta previa the abdominal Caesarian section may be justified in view of the difficulties attending delivery through the vagina, and the excessive dangers to mother and fetus.

Abruptio placentae, premature detachment of the normally implanted placenta, may give an urgent indication for immediate delivery. Some cases of abruption of the placenta terminate spontaneously, and often safely for both mother and child. Others may be treated by temporizing measures, but not a few demand the immediate evacuation of the uterus. Conditions threatening the life of the child will bring the indication for its quick delivery. Asphyxia in utero from abruption of the placenta, prolapsed cord or from prolonged labor, all make us desire to deliver the child. If the cervix is dilated the way is easy; if it is not, we must dilate it, in one of the ways to be mentioned. An old, generally discredited method of rapid delivery is the accouchement forcé. The term means forced delivery and the procedure consisted of dilating the cervix violently with the fingers, the performance of version and rapid extraction of the child. Owing to the high infant and maternal mortality of this operation its use is not recommended by many practical accoucheurs. Schroeder (Geburtshilfe, Seite 314, 14th ed.) says it is never indicated, not even in detachment of the placenta.

The closed cervix offers the main obstruction to delivery, and to overcome this various procedures are recommended.

1—The use of rubber bag dilators, as the Barnes' and its modifications, whose purpose is to open the cervix by distention applied perpendicularly to its wall; and the colpeurynter (better metreurynter) and its modifications, which manner of operation is by cervical pressure from the inside of the internal os. Both kinds of bags dilate the cervix mechanically but they also evoke labor pains which help the process immensely, and herein lies their safety in distinction from other methods.

2—Manual or digital dilatation, by the Harris method or that appealing to every operator, the insertion of the fingers opposed back to back and the stretching of the cervical ring.

3—The instrumental dilator, of which the Bossi is the original type. There have been since Bossi's first instrument hosts of imitators, but with the exception of simplicity of construction, there have been no improvements on Bossi's latest model. The principle was invented by Bossi, and is elastic, constant, distension of cervix at four or more points.

4—Incisions in the cervix, either multiple small incisions, the ancient method, or deep bilateral incisions, Duehrssen's method, or crucial incisions.

5—The methodical incisions invented by Duehrssen and given by him the name Vaginal Caesarean Section.

6—Leaving the cervix entirely alone and delivering the child by abdominal Caesarean section. We will not consider this operation at all in this paper. It is mentioned only for the sake of completion. It has, however, a place in the debate as to the best method of overcoming resistance offered by the cervix.

Regarding all the five methods of enlarging the cervix it must be said that nearly everything depends on the degree of effacement. If the cervix is effaced, is taken up into the body of the uterus, is shortened, the dilatation is a simple matter and is devoid of danger. Then the large branches of the uterine artery and the plexus of veins around the supravaginal cervix are drawn upward into the lower uterine segment and, even if the thinned cervix tears to the fornices, the hemorrhage is not alarming. The effacement of the cervix is accompanied also by a softening which renders artificial dilatation easier and less likely to cause lacerations. If the effacement, or shortening, is only half completed more than half is gained, because experience has shown that the partial retraction of the supravaginal

portion and the attendant succulence render subsequent artificial dilatation much easier and less hazardous.

The cases of completely closed cervix tax the ingenuity of the accoucheur, and if the tissue of the cervix happens to be particularly hard or otherwise pathogenically altered the difficulties in obtaining a passage for the child may be almost insuperable.

Fieux (Annales de Gyn. Juin, 1903, p. 407) tells us that there are no muscular fibres in the parturient cervix and that therefore "spasmodic" rigidity of the cervix can not occur. This is at variance with accepted notions of the conditions. Chloroform may relax a cervix, as may also chloral and a warm bath. Probably the frequency of "spasmodic rigidity" of the cervix is exaggerated, and that most of such cases are tetanic rigidity of the uterus, due to over stimulation. In such cases under chloroform the cervix would give way to even light attempts at dilatation.

In primiparae the cervix is harder to dilate than in multiparae because, in the latter previous labors have overcome the resistance somewhat. One must be careful, however, as in multiparae atonic hemorrhages are commoner. The use of rubber bag dilators is not attended by laceration of the cervix unless the bags are filled too full, or if too much traction is made on them. The writer knows of one case in which the uterus was ruptured by the colpeurynter, too much traction being made and too strong pains being produced.

The process of colpeurysis is very slow, hence its safety, and can not be employed where haste is indicated. Manual and instrumental dilatation is always attended by laceration of the cervix. These lacerations may be more or less deep, but the writer, in many dilatations, has never failed to find them. Their depth and the attendant amount of hemorrhage vary according to the degrees of effacement of the cervix as above stated.

In five cases where the writer used the Bossi dilator there were lacerations of the cervix. None was serious either in depth or by hemorrhage, but one would have been had not the tear been early discovered and the instrument removed. In some cases the cervix is so pathogenically altered that no method of dilatation will succeed, and in these cases one must cut the cervix open or perform vaginal caesarean section. Duehrssen's lateral incisions occasionally tear further into the parametrium and also may give rise to furious hemorrhage which may baffle one's skill and cause death.

Zweifel (Cent. für Gyn. 1895, Nr. 46, S. 1215) and Gesaner (Zeitschr. für Geb. u. Gyn. Bd. 32, S. 290) quote cases where even in

a hospital the parturient got into a very critical condition from hemorrhage, and in one case died.

If the cervix is effaced the incisions are relatively safe; if the internal os is closed, the incisions are very dangerous, and the methodical colpohysterotomy is the operation of choice when one wishes to deliver rapidly through the natural passages.

Duehrssen devised and recommended the operation April 1, 1895, and on the 25th of the same month first performed it (der Vaginale Kaiserschnitt, Berlin, 1896). The result was successful for mother and child. Acconci of Italy devised a similar operation but Duehrssen (Der Vaginale Kaiserschnitt, Berlin, 1904) conclusively proves that the honor of priority belongs to himself.

At first Duehrssen's operation acquired few disciples, but after the publication of twenty-two cases by the originator, more were performed. Now the pendulum seems to swing too far and an overzeal to try the new procedure is evident by many operators.

While there are still those who say there is no need for the new method of delivery the writer must positively assert, as the result of his own experience, that the vaginal Caesarean section constitutes one of the most valuable additions to obstetric technique contributed in the last thirty years.

The original operation of Duehrssen opened the cervix both posteriorly and anteriorly. Minor features of the operation have been altered by various operators. Bumm, who probably has done more work in this line than any one, uses simply the anterior incision, and for small children (i. e., in premature labors) the writer follows this plan.

DUEHRSSEN'S OPERATION.

If the patient is a primipara and near term, a preliminary deep episiotomy is made. The cervix is then exposed by a broad, short perineal retractor, the posterior lip seized by a vulsellum and two long sutures put through it near the middle. The vaginal wall is split posteriorly for four or five centimeters, the peritoneum of Douglas' cul de sac is pushed up, then, pulling down the cervix by means of the two suture bridles before inserted, the posterior cervical wall is split with scissors upward just through the internal os.

Then the anterior vaginal wall is incised in a similar manner, the bladder is pushed forward, and the anterior cervical wall is split up to the edge of the internal os.

The child is now delivered, the placenta removed manually, the uterus packed with iodoform gauze, and the incisions carefully sutured together.

Following are the steps of the operation in detail, as performed by the writer:

An anesthetizer and at least two assistants are necessary. It would be best to have three assistants, one to hold the speculum and one leg, one to assist with the sewing and to hold the other leg, and the third to thread needles and hand instruments.

The lithotomy position is used, and a good horizontal light is very necessary for accurate work.

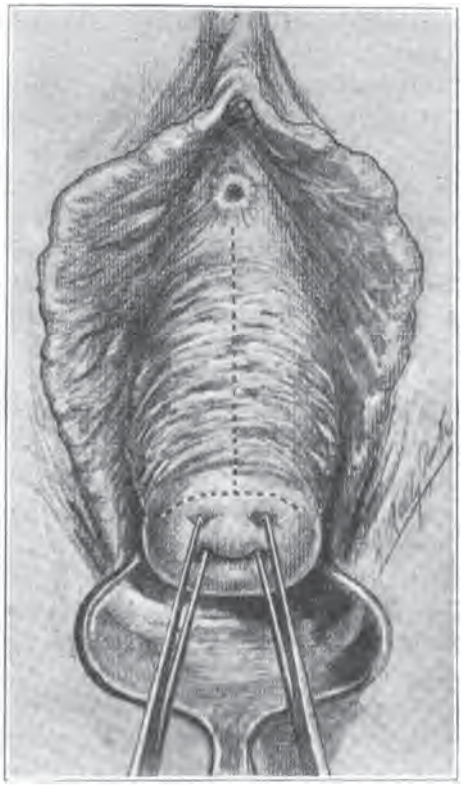

Fig. 1. Shows lines of incisions.

If the parturient is close to the end of pregnancy and primiparous it is best to make a deep unilateral episiotomy, on that side to which the occiput points, if forceps are to be used; on the opposite side if version is to be performed. This will avoid laceration of the perineum during the subsequent delivery.

If the episiotomy wound bleeds too freely it may be sewn up temporarily, the line of suture being at right angle to the line of incision.

A short, broad speculum is now inserted to expose the cervix which is drawn down by means of two pairs of double tenaculum forceps. Incisions shown in Fig. 1 are now made. The long cut extends to 1 cm. from the urethra, the short transverse cut encircles the cervix one-third of its circumference. Both go through the mucous membrane only.

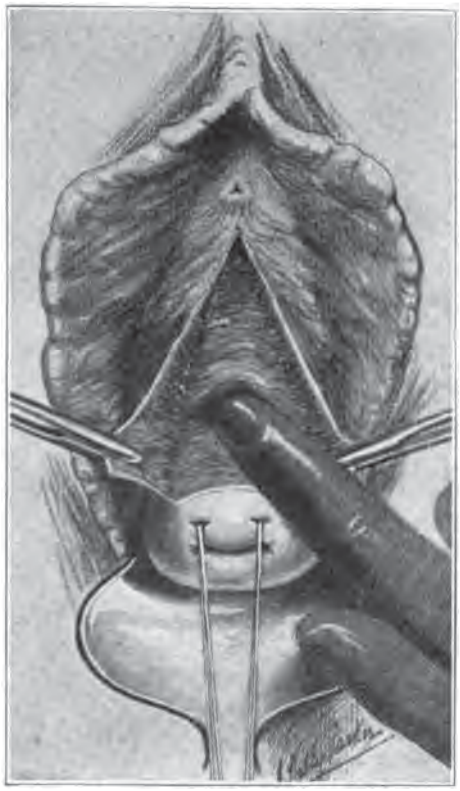

Fig. 2. Pushing the bladder from anterior uterine wall. Finger is covered with gauze.

The bladder is now separated from the cervix uteri, and the cervix freed partly from the base of the broad ligaments on either side. Care is necessary here not to go too far to the side as large veins may be encountered. The finger covered with gauze gently rolls the bladder from the cervix until the fold of peritoneum comes into view. The

flaps of vagina are held away by the assistants, each corner grasped by an artery forceps.

After the bladder has been pushed up as in Fig. 2, the cervix is split in the median line with scissors. Fig. 3.

When the incision reaches near the peritoneum the tenaculum forceps are replaced by silk or gut strings, and successively higher portions of the uterine wall are drawn down by the vulsellum forceps, and cut by the scissors. Fig. 4. In this way the lower uterine segment may be incised, as it comes down easily by traction made on the

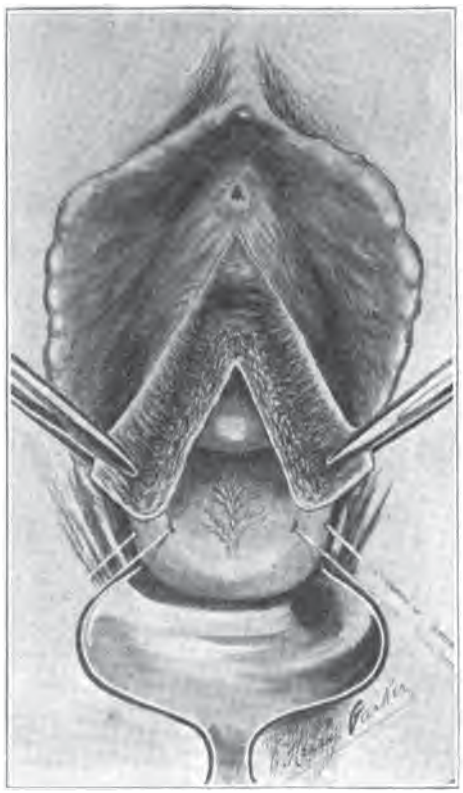

Fig. 3. Uterus incised through internal os. Bag of waters showing.

anterior wall alone. For a child weighing approximately three and one-half pounds the length of the uterine incision should be no less than 10 cm. If the cervix is already partly dilated the incision need not be so large. If the woman is at or very near term, a posterior incision should also be made.

The posterior lip is grasped by two vulsella, and split down to the peritoneum of Douglas' cul de sac. Fig. 5. This is then pushed up from the cervix and the cervical incision prolonged as much as is considered needful. Duehrssen still insists on the additional posterior incision, especially with large children.

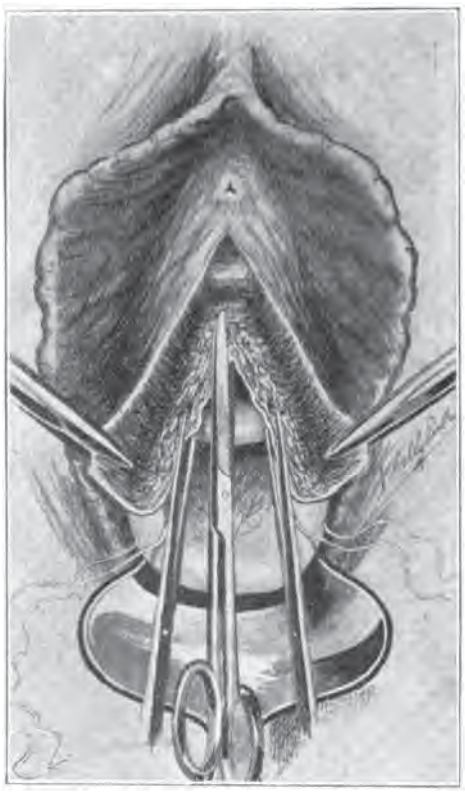

Fig. 4. Edges of uterus being drawn down and scissors cutting the lower uterine segment. Note peritoneal pouch at upper end of incision.

The hemorrhage, during these maneuvers is not very profuse, and is controlled by firm traction on the cervix.

After the internal os is cut the bag of waters or the presenting part falls into the field. Having obtained access to the uterine cavity the delivery is rapidly accomplished. The placenta is quickly removed by hand and the uterus briskly massaged inside and out. If labor pains have been present usually there is no hemorrhage, but if the uterus is atonic, it should be firmly tamponed with a long strip of gauze. Traction is now made on the string bridles, which brings

the anterior wall of the uterus into view and lessens the bleeding. The tenaculum forceps are again used to draw down the upper angle of the uterine wound and a continuous catgut suture is applied for

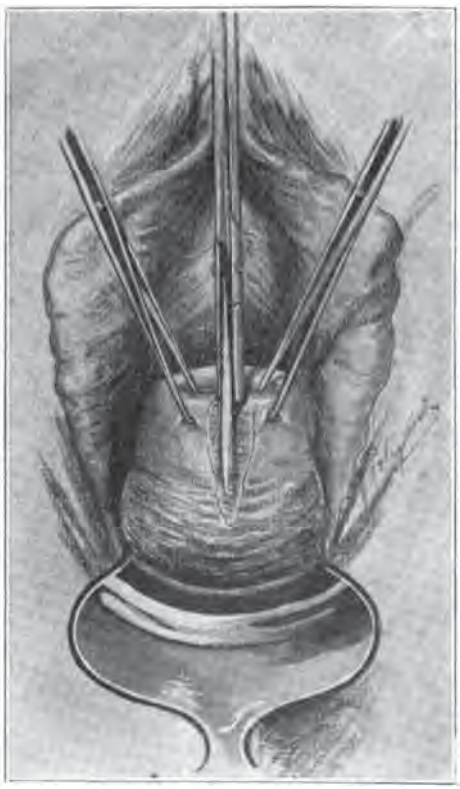

Fig. 5. Incising the posterior lip of cervix.

its closure. Fig. 6. The suture should grasp the whole thickness of the wall and the stitches should be close together. It is sometimes possible to place a deep layer and a superficial layer of sutures. Care is needed not to catch the gauze in the needle.

After the cervix is sutured the vagina is closed with a continuous twenty-day catgut suture. A small drain of gauze is placed in the vesico-uterine space, and removed at the end of twenty-four hours. If a posterior cervical incision has also been made this must be closed first, by through and through catgut sutures tied on the cervical mucous membrane. The vagina is closed separately with a running

catgut suture tied on the vaginal mucous membrane. Then the anterior wound is closed as above described. Finally the perineum is repaired if necessary.

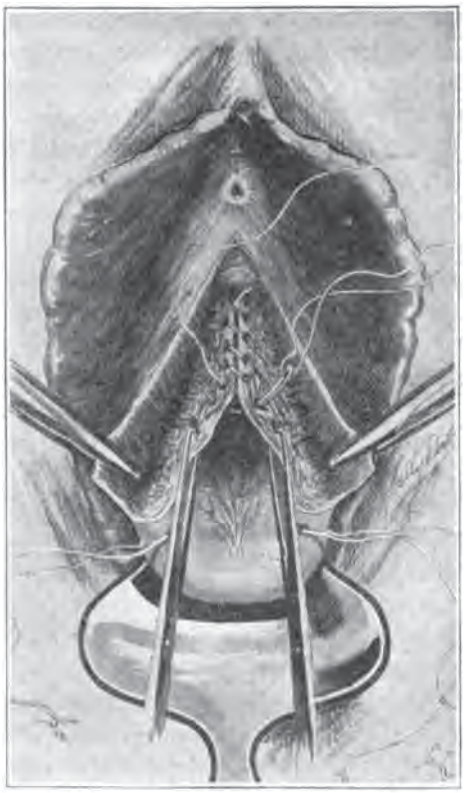

Fig. 6. First row of sutures being placed. Over this a second row is inserted Then the vaginal incision is closed.

The after treatment is identical with that of a normal labor. Bladder disturbance is more common and more obstinate. It is a good plan to give urotropin prophylactically.

By means of this operation it is possible to gain access to the uterus quickly and at any period of pregnancy and the advantages of such a procedure may be readily appreciated even by those not in active practice as accoucheurs.

Certain objections have been raised against the operation. First that the bladder or the peritoneum may be opened. Duehrssen has proven at postmortems that such was not the case when the technique

was properly observed, and Bumm (Report of Meeting at Kiel in June, 1905) says none of his fifty-two cases tore beyond his incision.

Second, the danger of hemorrhage from the incisions and from the placental site. In the first instance the bleeding, experience has shown, is much less than one would expect, and by keeping in the middle line, not separating the tissues too deeply at the sides, and drawing the uterus well down, no danger has arisen from this source. During the delivery the child tampons the incisions. Post partum hemorrhage, as not seldom occurs with abdominal Caesarean section, was occasionally annoying, but in all the cases was successfully controlled by gauze uterine tamponade. When the uterus is sutured the bleeding always ceases.

Third, it was feared that the uterus, in subsequent pregnancy and labor, would be likely to rupture. Two cases of labor have already been reported, in neither of which was trouble noted. Examination after recovery has shown that the wounds heal well and leave little scars. V. Bardeleben (Cent. f. Gyn. 1904, Nr. 46) in a recent article reports the results of his examinations made months after operation. The findings were very satisfactory.

The indications for vaginal Cæsarean section may be summed up in two sentences:

First, when the cervix is tightly closed and an indication arises for immediate delivery.

Second, when the cervix is pathogenically altered and nature is not able to overcome the obstruction.

Under the first head may be placed eclampsia, detachment of the placentæ (abruptio placentae), uncompensated heart disease, lung disease, with threatening edema, and all acute conditions threatening the life of the mother and making the delivery of the child desirable. When the child is endangered from the above conditions, or from prolapse of the cord the operation may also be indicated. Under the head of obstructions, cancer, stenosis, ante fixatio uteri, and scars from old ulceration may be mentioned. One must operate carefully in cases where portions of the cervix have ulcerated away as one may unexpectedly open the bladder or peritoneum. In one case the writer came upon an old abscess which was in communication with the rectum, a relic of a previous septic infection, and in another case there was no cervix, the vagina being united to the lower uterine segment. In cases of carcinoma, after the delivery of the child, the bisection of the uterus should be continued and the whole organ removed in two sections after the method of Mueller.

In conclusion the writer will report two cases of four in which the operation was performed:

Case 1. Mrs. G. Primipara. Began to have eclamptic convulsions December 27, 1904, early in the morning, and was transported to Wesley Hospital at noon. She was in deep coma with high fever, rapid pulse and marked cyanosis. The convulsions were recurring every fifteen to twenty minutes. Pregnancy had proceeded to seven and one-half months and labor had not begun. Heart tones were not audible. The cervix was long and completely closed.

Vaginal Caesarean section was immediately performed and the dead fetus easily removed. During the operation the patient had two severe convulsions, in spite of deep anesthesia. No effect was produced on the course of the disease and the patient succumbed in twelve hours.

Case 2. Mrs. A. Primipara, age twenty-seven. Has always been sickly, pale and sallow. Had severe tonsillitis two years ago. Hyperemesis in the early months of pregnancy. For the last ten days albuminuria, edema of feet and during the last night severe headache. Now six and one-half months pregnant. Premature labor began at two a. m. and at eight a. m. external hemorrhage appeared, coincidently with which the headache ceased. At ten a. m. the patient had continuous abdominal pain, quite profuse flowing, and had the usual symptoms of internal hemorrhage. The uterus was hard and tense, no contractions were determinable, nor could the heart tones be heard. The cervix was long and tightly closed.

Urgent necessity for quick delivery was apparent as the diagnosis of premature detachment of the placenta (abruptio placentae) was certain.

Vaginal Caesarean section was performed. The child was in breech presentation, and owing to the excessively rigid genitalia craniotomy was done. As the fetus was dead there was no compunction about this. The uterus was sutured with catgut in two layers. Patient had slight fever in the puerperium but no cause could be found for it. No treatment was instituted. Recovery prompt. Five months later the uterus was found anteverted, freely movable, painless, and the scar in the anterior vaginal wall was hardly perceptible.

Duehrssen is entitled to credit for introducing two valuable operations into obstetric practice, the uterine tamponade for post partum hemorrhage, and the vaginal Caesarean section.

34 WASHINGTON STREET.