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Gynecological Aspects of Obstetrical Delivery

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ABSTRACT

Parturition should be looked upon as a physiological exercise, and ideally the multiparous state should be one of asymptomatic change associated with comfortable function. However, because obstetrics is a field in which serious complications may suddenly occur, the ideal is not always possible. Among the delayed effects of delivery is a group of gynecological complications which may affect the well-being of the woman so involved in later life. Such complications as uterine prolapse, cystocele, rectocele, enterocele, and genital fistula may be the grim aftermath of poor obstetric practice.

The article reviews some of the advances in the prevention of maternal mortality and morbidity and emphasizes the important place of intelligent conservative obstetrics in the hands of both general physicians and specialists.

PARTURITION should be looked upon as a physiological exercise. Ordinarily, when vaginal delivery takes place for the first time, a permanent change in the soft tissues of the birth canal is brought about. Ideally, the narrowness and comparable rigidity of the parts are overcome and a condition of more pliable and physiologic relaxation is established. This "multiparous state" should be one of asymptomatic change associated with comfortable function.

These self-evident facts have on occasion given the erroneous impression to some of our less enlightened brethren that the specialty of obstetrics and gynecology is quite simple and mundane. However, those who practise the obstetric art know well that in relation to every pregnancy the possibility exists of dangers and complications sufficiently serious and spectacular to rank among the most important in all phases of medicine in terms of the demands they make for immediate and skilful handling.

Most of these complications will be encountered and must be taken care of at the delivery table or in the immediate postpartum stage. However, this paper has to do with the consequences of obstetrical delivery which require gynecological treatment at a later time. Generally speaking, these are due to obstetrical injury. Some are preventable while others occur as a result of congenital weakness of important supporting structures which stretch and tear with inordinate ease. The accumulation of those defects of tissue integrity results in uterine prolapse, which is seen occasionally even in the nulliparous woman.

Some of the more important of the lesions in this category are as follows:

A. *Uterus*
   1. Cervical canal incompetence.
   2. Prolapse.

B. *Vagina*
   1. Enterocele.
   2. Cystocele.
   3. Rectocele.
   4. Vesicovaginal fistula.
   5. Rectovaginal fistula.

C. *Perineum and Anus*
   1. Complete laceration.

The cervix is the site of small lacerations at almost every delivery. In some cases this is more marked, and incompetence of the internal cervical os ensues. As an abnormal enlargement of the canal develops, the organ fails to function properly in subsequent pregnancies, and repeated abortion often follows. This usually takes place in the midtrimester in association with painless dilation of the cervix.

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The etiological background is often that of rapid and traumatic stretching of the cervix. This may be due to overzealous dilation for curettement or abortion, or to precipitate delivery. The inexcusable procedures of too rapid medical induction with oxytocic agents, or of forceps and version operations through the incompletely dilated cervix, are pernicious examples of such etiological factors.

The therapy for this complication is surgical, the aim being to correct the defect at the internal os. This may be done in the non-pregnant state by means of the technique of Lash or during early pregnancy by Shirodkar's procedure. The ideal time to perform the latter is between the fourteenth and twentieth weeks of gestation, after it has been ascertained that a normal pregnancy is indeed present. This approach has been used with great success in many clinics, including our own, especially when Mersiline* suture is utilized. It should be used only in those patients who have demonstrated cervical incompetence by previous mid-trimester abortion, for which there is no other etiology. It has no place in the management of early abortion and should never be attempted before 14 weeks of gestation have passed. At term the baby may be delivered by Cesarean section or the suture cut and normal vaginal delivery allowed to proceed.

Prolapse of the uterus is the result of partial unfastening and stretching of its moorings. The bladder is dragged downward as the relaxing cardinal ligaments allow the uterus and cervix to descend and allow the *cul-de-sac* of Douglas to deepen with the formation of an enterocele. Poor obstetric judgment in the timing of the delivery and uncalled-for operative manipulation frequently contribute to this complication. As the various degrees of prolapse develop, the patient becomes increasingly uncomfortable. Prolapse may be associated on the one hand with an inordinately prolonged second stage of labour; and on the other with premature delivery, by an impatient or incapable operator, of the incompletely descended fetus through a partially dilated cervix.

The question often arises how prolapse of the uterus should be treated in the woman of childbearing age. In the young woman who wishes to bear further children, every attempt should be made to delay the definitive surgical procedures which are curative. Depending upon the severity of symptoms, these patients may be prepared psychologically by the physician to put up with the abnormality and some may be fitted with a pessary to be worn during the day. If the symptoms are unbearable, a procedure similar to the Manchester operation may be performed which corrects the prolapse by shortening the cardinal ligaments. Correction of cystocele and associated perineal relaxation should be carried out as indicated. Ordinarily, the cervix is amputated in this procedure, but in the very young woman desiring further family, only a minimum of cervical tissue should be removed so as not to disturb the internal os or render it incompetent. With these precautions, normal pregnancy usually takes place and subsequent recurrence of prolapse may be avoided by the intelligent use of Cesarean section.

On the other hand, the patient with severe symptoms and a good-sized family, and especially the woman who is nearing the end of her reproductive period, should be offered a more definitive operation. In my opinion, the best results are obtained by employing vaginal hysterectomy and the appropriate plastic procedures to overcome cystocele, rectocele, and enterocele (posterior culdoplasty). Such an approach restores the normal gynecological milieu and allows the excision of the redundant uterus which so often is the site of benign or malignant disease later on.

Of distal posterior vaginal wall and perineal injuries, none is as debilitating and embarrassing as the *complete tear through the anal sphincter and lower rectum.* This injury should be recognized immediately following delivery and repaired at once. Traumatic forceps manipulation, poor choice of the type of episiotomy used, and too rapid expulsion of the baby are the common causes of this injury. Carefully controlled gradual delivery of the presenting part is a *sine qua non* of good obstetrics. When such technique is utilized, it becomes apparent whether episiotomy is needed and, if so, how extensive the incision of the perineum should be. In recent times quite a fetish has been made of the midline episiotomy. We use it frequently on our service, and there can be no question that it is the easiest to repair anatomically and often is associated with minimal discomfort in the puerperium. On the other hand, when more room is needed for graceful delivery than exists between the posterior fourchette and the anus, a deep and adequate medio-lateral incision should be made. Every physician who does obstetrics should exercise judgment in this respect and know how to repair this type of episiotomy perfectly. The specialist who deliberately invites the third-degree tear is not the obstetrician he should be.

If immediate and adequate repair of the complete anal tear is not accomplished at the delivery table, the patient is destined to live a life of discomfort, embarrassment and isolation until it is repaired (Figs. 1-4).

Vaginal fistula, either between bladder and vagina or rectum and vagina, fortunately has become an infrequent complication of obstetric delivery. In the day of J. Marion Sims, the great Southerner who became known as the "father of modern operative gynecology," vesicovaginal fistula developed not uncommonly after prolonged second stage of labour. His ingenious methods, reported in 1852, were among the earliest to cure this condition. Today, most vesicovaginal fistulas occur following surgical procedures, and only where poor obstetrics is practised does more than an occasional

*Ethicon suture, Ethicon, Inc., Somerville, New Jersey.

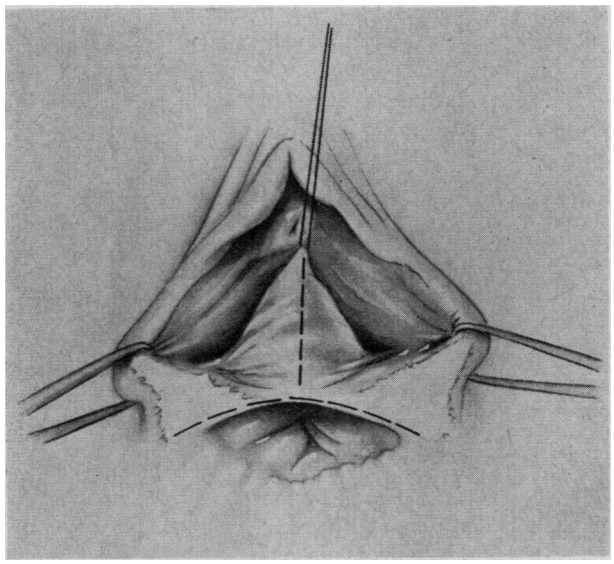

Fig. 1.—Old complete tear of perineum showing scarring and absence of sphincter support. The lines of original incision are delineated.

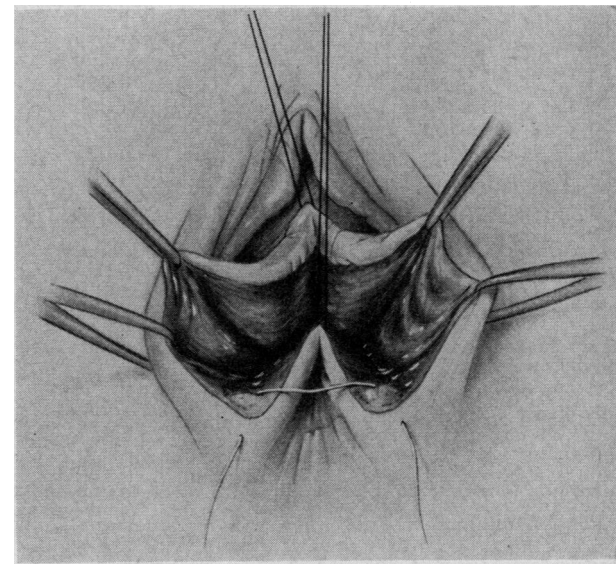

Fig. 2.—The vaginal mucosa has been dissected from the lower rectum. A suture has been placed through the retracted anal sphincter.

complication of this nature occur in association with delivery. The salient etiologic factor is ischemic necrosis brought about by subsequent sloughing through a portion of the anterior vaginal wall into the bladder. However, unskilled forceps manipulation, especially rotative methods, may bring about the same undesirable complication.

The successful repair of vesicovaginal fistula is still a challenge to the skill and fine judgment of the expert gynecologist. Some of the points of technique which have aided the author are illustrated in Figs. 5, 6 and 7. An indication for suprapubic repair rarely exists, since with proper technique the vaginal approach is most successful. The prime points of technique are:

1. Adequate preoperative preparation.
   (a) Careful urological study to rule out multiple fistulas and associated ureterovaginal fistula.

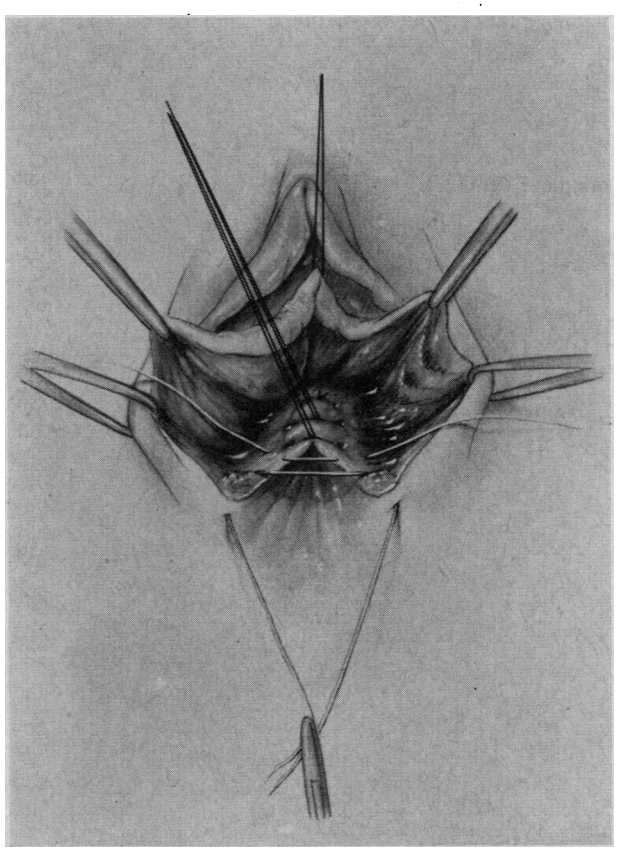

Fig. 3.—Interrupted sutures have been placed through the torn rectum above the key anal sphincter suture.

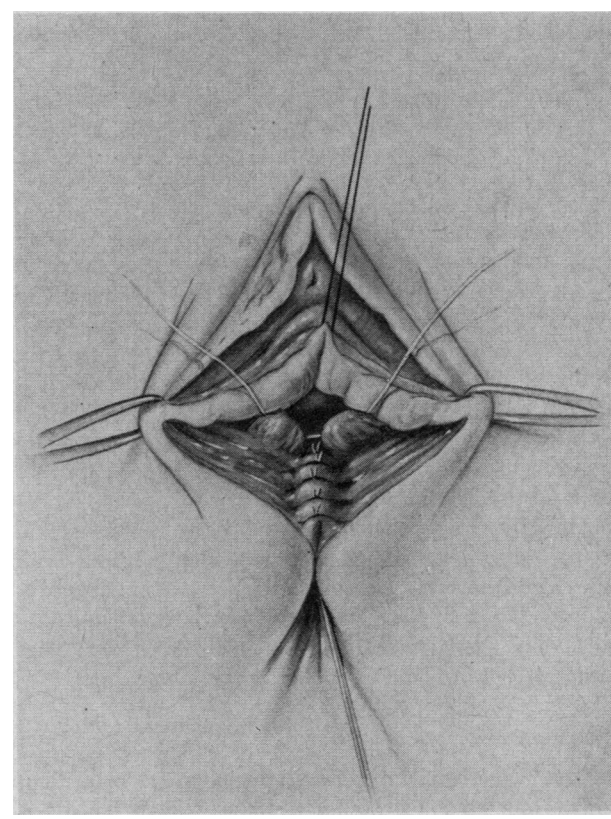

Fig. 4.—The torn lower portion of the rectum has been closed completely and the anal sphincter suture has been tied. A suture has been placed through the levator ani, and the mucosa of the posterior vaginal wall will be closed over all.

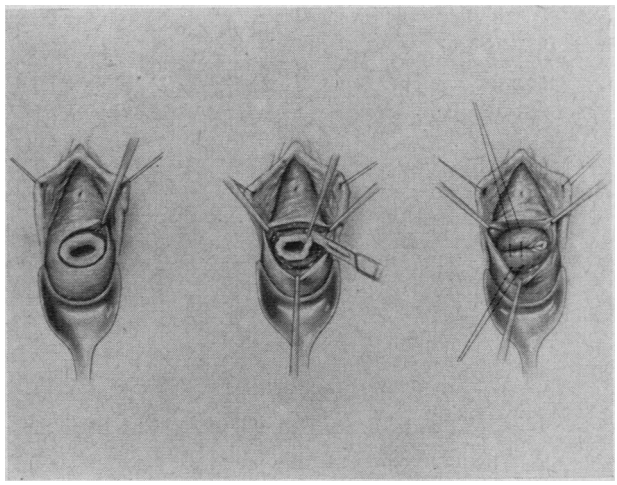

Fig. 5.—A small cuff is left around the fistula opening and the bladder is dissected widely to alleviate tension when sutures are placed.

(b) Await the return of pliability of the surrounding tissues by allowing sufficient time to pass, or produce it with the use of cortisone substances.
(c) Local estrogens may be used efficaciously in older women with fistulas of long-standing.
(d) Treat vigorously any local bladder infection.

2. Good exposure.
   (a) The Schuchardt incision may be helpful.
   (b) The bladder should be dissected widely.
3. Placement of sutures without tension.
4. Inversion of a small cuff about the fistula opening.
5. Interposition of a soft vascular tissue between the bladder closure and the vaginal mucosa.
   (a) A bulbocavernosus fat-flap often is helpful.

Recto-vaginal fistula is also a problem of importance. Prolonged second stage labour may be, but is less likely to be, causative. Forceps trauma and operative mistakes at the upper reaches of episiotomy wounds are more common etiological factors. Ischemic areas may develop owing to sutures malplaced in the rectum itself. As with the repair of bladder fistula, careful mobilization after adequate preoperative preparations and the use of bulbocavernosus fat-flap plastic procedures are most useful. In the case of a very large rectovaginal fistula, where much of the posterior vaginal wall has sloughed, the performance of colostomy preliminary to definitive repair is mandatory. The continuity of the bowel is then re-established after complete vaginal healing has taken place.

DISCUSSION

As we contemplate the gynecological complications that stem from obstetrical delivery, it is relieving to note that such injuries are becoming less and less common.

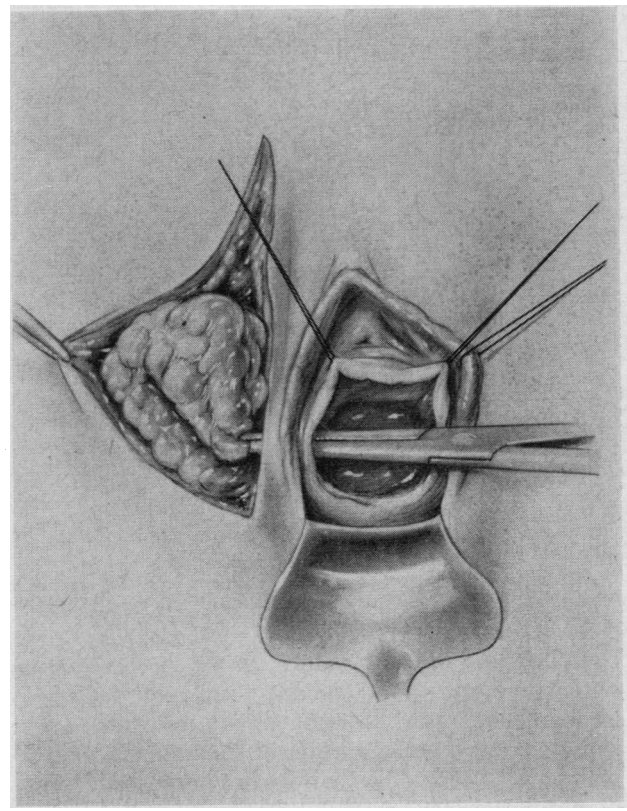

Fig. 6.—After closure of the fistula, a bulbocavernosus fat-flap is made with its blood supply intact. A tunnel is made between the two areas of dissection.

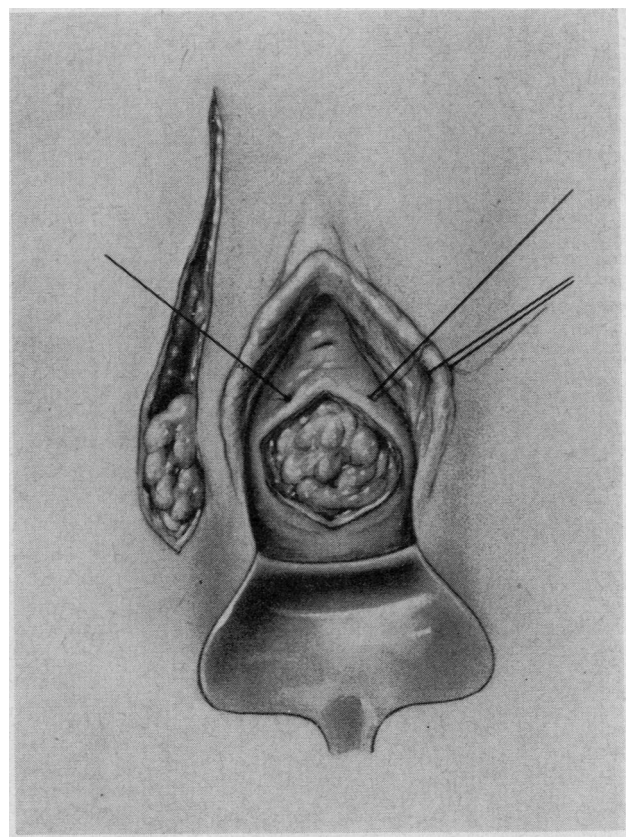

Fig. 7.—The fat-flap is swung over the suture line in the bladder. The vaginal mucosa will now be closed over all and the incision over the right labium majus brought together with interrupted sutures.

It is true that maternal mortality in the United States has dropped from 60 per 10,000 in 1930 to about 3.5 per 10,000 in 1960, an improvement of over 17-fold. When the author was a resident, febrile morbidity in the postpartum period occurred in 10 to 20% of obstetrical patients. Today the comparable figure is 1% or less. Perinatal mortality has declined, and all these advantages are added to produce a further decrease in the more remote gynecological complications of delivery.

Many factors have come into play which we all appreciate: the availability of the antimicrobial agents, blood banks and better anesthesia have played major roles. The residency system has brought about better training in the combined field of obstetrics and gynecology. The more complete understanding of physiological principles and the mastering of techniques and the possession of sound clinical judgment are more widespread in the discipline than ever before and have added greatly to our progress.

It appears to be self-evident that the obstetrician should be well trained in the field of gynecology and that the gynecologist, to be effective, must have a basic comprehension of the obstetric art and all it implies. Without this, he soon becomes a mere technician, devoid of appreciation of the special medical and surgical needs of the female reproductive system. As far as I am concerned the term "obstetrics and gynecology" should be looked upon as *one* word.

What of the general practitioner? He has heavy responsibilities in this field; if he is to engage in any obstetrical practice, he must be capable of recognizing and practising the fundamental principles of sound and conservative obstetrics. When nature fails, he must know how to improvise safely while guiding the patient into the specialist's hands. Furthermore, he must have an appreciation of good gynecology and he should demand for his patients the performance of expert and *functional gynecological surgery,* a combination to be found in the hands of the well-trained obstetrician and gynecologist.

Functional gynecological surgery restores normal physiology and anatomy in so far as this is possible. It should be remembered that the complications of gynecological surgery are unique, since they may influence some of the most important fundamentals of human life. The very fact that the function of reproduction may be jeopardized in the young by ill-advised techniques places the gynecologic surgeon in a position of great responsibility. The importance of knowing how and when to safeguard ovarian tissue cannot be overemphasized. The implications of premature castration go far beyond the immediate symptoms of hormonal withdrawal. The local warping anatomical changes which gradually take place have led to untold unhappiness. The constitutional metabolic effects such as premature coronary atheromatosis have broad and serious implications, and in some instances may shorten the life span.

Surgery of the vagina or vulva must be very carefully planned so as not to interfere with satisfactory sexual intercourse. Vaginal shortening or narrowing must be avoided. The purse-string suture and the bringing together of ligament stumps in the midline even with the excuse of providing support have no place in modern gynecology. Dyspareunia and divorce, or as sometimes happens, bitter resignation, may be the unfortunate result unless methods are utilized which are truly functional.

Many mysteries still remain to be solved by fundamental research in the overall field of reproduction. Many of the great advances of the future will be based upon the exciting research being carried out today. In the meantime, with our present knowledge, how can we better our record?

As in almost every field, the full potential of known facts is seldom realized even though the most seasoned and most dedicated may come close to this achievement. Perhaps we should ask ourselves the following questions:

With all of our specialized training, do we sometimes disregard the importance of asepsis?

Do we use antibiotics indiscriminately?

Are we lax in the observance of proper indications for blood transfusions?

Do we realize that the administration of one pint of blood is associated with a mortality rate greater than internal appendectomy?

Do we use Cesarean section for the best interests of mother and baby without depending upon it to extricate us from *all* the vicissitudes of vaginal delivery?

Do we realize that the overall maternal mortality for Cesarean section is still six to seven times as great as for vaginal delivery?

Do we interfere too soon with forceps deliverv in normal cases?

Do we over-sedate our patients and their babies?

Do we depend upon postpartum tubal ligation, or even Cesarean hysterectomy for sterilization without taking into consideration the overall gynecological future of the patient? Do we realize that many patients also are in need of vaginal plastic procedures at this time and the gynecological function of these women after involution would be served better by performing the proper vaginal plastic procedures with the hysterectomy?

I believe the ideal obstetrician-gynecologist is one who has the strength of character and training to stand by alertly during labour as nature does her duty well, but when nature falters does not hesitate to step in with lightning swiftness and utilize the superior judgment and magnificent surgical techniques of which he *must* be capable.