

## EFFECT OF POPULAR GYNAECOLOGICAL PROCEDURES ON THE FUTURE CHILD-BEARING OF WOMEN

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AT the present time, when each community has its own small hospital and the surgical fever has seized the profession, and gynaecology in many communities has passed into the hands of the general surgeon, who not infrequently offers operation as a panacea for almost all of the disorders peculiar to women; it would seem well to halt and review our work and ascertain the effect that some of these more popular gynaecological procedures have on the future child-bearing of women.

Over 60% of gynaecological lesions, viz. the injuries of child-birth, decensus, and acquired displacements are the direct result of poor obstetric practice—the remaining 40% include endocrinal disfunctions, anomalies, infections and tumours. Hence, it will be seen that in considering operation for the relief of gynaecological symptoms, one should not only be familiar with the etiology and pathology of pelvic disease, but with the accepted methods of cure for the large proportion of cases that belong to our obstetric omissions.

It is not the purpose of this short contribution to take up the question of operations on pelvic tumours, except as they relate to and complicate conception, pregnancy and the puerperium, but to call your attention to a few of the surgical errors that are being perpetrated day after day, either because of ignorance or without due regard to the consequences.

Aside from endocrinal disfunctions, there is probably no one condition which so frequently prevents conception as endocervicitis, or infection of the cervical glands. Gonococcal invasion of the racemose glands within the cervix is the most common cause of this condition. Undisturbed, a cervical gonorrhoea remains a local disease and terminates in that pathological entity recognized as cystic cervicitis. While this is an admitted fact, this infection is spread more frequently than one can imagine to the tubes, parametrium, and peritoneum by those

unwholesome instruments, the cervical dilator, the uterine curette and the uterine stem.

Each year, in our private clinic, we see something over 400 new cases of sterility; each patient is studied in detail, and the cause sought before any treatment is advised. This study includes the type of woman, the potency of the husband, the reaction and character of the cervical discharges, the patency of the tubes and the ovarian function.

Since we have been employing routine inflation of the tubes, it has been rather illuminating to note the frequency with which the oviducts are found closed as a result of an ascending infection from a gonorrhoeal cervicitis or an induced abortion. These patients have almost invariably given a history of a cervical infection, an induced abortion, a dilatation, or a dilatation and curettage.

In our clinic, the curette, has but two purposes; *that of removing the secundines from the uterus, in the aseptic incomplete abortion before the eighth week; and for diagnosis to determine the cause of bleeding in uterine haemorrhage.*

Never has the curette cured a leucorrhoea; never is such a result possible. Leucorrhoea is a symptom of cervical disease; the discharge seldom, if ever, comes from the endometrium of the uterus; and it can only be cured by the destruction or removal of the infected areas; the curet cannot do this.

To the popular mind, and back in the brain of many physicians, displacement of the uterus is the cause of sterility; and likewise, the cause of backache in women.

To those of us who have studied this subject, it is well known that retroversion *per se*, does not prevent pregnancy; and but a very small percentage of the backache in women can be traced to retro-deviation; yet there are some 93 different operations which have been devised and done for the correction of backward displacement of the uterus, each having its



sequelae and oftentimes its effect on the future child-bearing of the particular woman.

A study of backache, reveals that not more than 18% of all backaches are due to gynaecological conditions; and the most common among these is infection of the posterior parametrial tissues an extension from the infected cervix—therefore, before operation is suggested, a careful study of the back, the sacroiliac joints, skeletal defects, faulty posture and flat-foot, should be made; otherwise the woman is subjected to a needless operation for a condition that is found in over one fifth of all gynaecological patients.

Review of our cases, show that more unnecessary operations have been done for the relief of backache, than for any one symptom, except that of sterility.

Before taking up the consideration of the more extensive gynaecological procedures that may effect conception and labor; let us review the effect of operations for sterility, on the future child-bearing of women. Unfortunately, the subject of sterility is not understood by the great mass of the profession, and by a large number of our reputed gynecologists.

The endocrine system plays as large a part in conception, as it does in the development of the female genitalia; the hypothyroid and pituitary types of women are poor subjects for conception; and also make up a large proportion of our difficult accouchements.

In sterility, there are always two parties to the contract; each does his or her part. Routine examination of the male shows that from 25% to 30% are either permanently or transiently impotent; while on the woman's side, we find endocrinal disturbances that directly inhibit conception, in nearly 50% of the patients applying for relief. This large class includes general hypoplasia with or without marked malformation, ovarian disfunction, due to pituitary over activity, hypothyroidism, and those ovarian inefficiencies which result from infection or chronic circulatory disturbances.

Next most important, are those conditions produced by infection; either gonorrhoeal or those following induced abortion. Hence, it will be seen that before proposing operation for the cure of this condition, in any woman, a most painstaking examination including an investigation of both parties must be made; yet,

notwithstanding this fact, which seems so self evident, the uterus is being curetted, stems are being introduced, discission of the cervix is being done, and excision of the cervical glands advocated without having made this investigation.

What is the effect on future child-bearing of dilatation, curetting, or the introduction of a stem pessary in the presence of an infected cervix? not the acutely infected one, but the cervix that has its small halo of redness and a string of muco-pus extruding from its os.

The fundamental principles of infection include the introduction of an organism, into a favourable soil through an avenue of entrance; the dilator makes the avenue; the organism is there, or is carried there, and the bruised tissue resulting from the dilatation, or the trauma of the curette offers the favourable soil for its multiplication and spread. Add to this, the introduction of a stem which plugs the cervix and interferes with drainage, and we have all of the factors necessary for the spread of infection into the lymphatics of the para-uterine tissues producing parametritis, perisalpingitis, periophoritis and peritonitis.

Sampson has shown that it is possible by the introduction of a Hegar dilator to force the endometrial contents through the tubes, and to implant endometrial products on the peritoneum; yet, day after day, with a common knowledge of these facts, the curette, dilator and stem are used to cure sterility; and what is the result on future child-bearing? The woman remains childless, and in addition she develops a chronic pelvic inflammation with a train of new symptoms that she did not have prior to her operative intervention.

The Dudley operation, which was advocated and done by many of us a few years ago for the cure of sterility and dysmenorrhoea, for the purpose of changing the direction of the utero-cervical canal and the position of the cervical os, that it might rest more directly in the seminal pool has passed into well deserved oblivion. While it must be admitted that a few women on whom this operation was done, on properly selected indications, became pregnant; their subsequent history hardly justifies its continued employment. The effect of this operation on pregnancy, if the incision has been carried well up



on the posterior lip, is to favour premature labour, while during labour there is rapid dilatation of the cervix after the diameter has reached five or six cm. for the presenting part opens the Dudley wound and the incision is extended up to, or even above the internal os and into the posterior fornix. During delivery this wound is blocked by the child which acts as a tampon, but on its expulsion there is always more or less cervical haemorrhage. This extension of the cervical incision has even occurred when the membranes have been maintained intact. The subsequent action of this wound is either infection with a resulting posterior parametritis, as has occurred in many of our cases, or more rarely a pelvic peritonitis when the wound has opened into the pouch of Douglas. When the injury is less extensive, a granulating wound at the site of the incision is the result. Should pregnancy again take place, abortion or premature labour is almost sure to follow.

The pin-hole os is no barrier to the energetic spermatozoan, rather, is it, the plug of mucus which occludes the os that prevents its entrance; yet this congenital anomaly has been treated from the time of Sims as an entity in preventing conception, when it is but a part of the endocrinal disturbance which has produced the anomaly.

This anomaly is found in two types of women—in the woman with a general hypoplasia having a small introitus, narrow vagina, a small anteflexed retroverted uterus, with defective anterior invagination of the cervix whose dysmenorrhoea or sterility is never cured by operation, because she is genitally defective; and in the pituitary type, with deep cervical invagination, who as time goes on, develops fibroids in the uterine body or an infravaginal hypertrophy of the cervix. In this class, the body of the uterus is unusually large, and the cavity on the introduction of a sound is shown to be surprisingly long, there is an anteflexion of both the body and cervix. As this type of woman grows older the pain lasts longer and the menstruation becomes more profuse. These are the types of pathology in which the stem has reigned; and in which it has claimed its cures.

It is interesting at this point to mention the names of a few of the stems that have passed down into gynaecological history. Instruments

of this type have been devised by Sims, Thomas, Cleveland, Wylie, Baldwin, Davenport and others—each has had its peculiar advantage in the mind of the inventor; but all have had the same effect on the pelvic tissues in the woman; namely; blocking drainage, stimulating uterine contraction and spreading infection. Fortunately, the appreciation of the latter, now prevents the intelligent gynaecologist from employing this device.

Other procedures that have been used for the correction of the pin-hole os, notwithstanding that the lumen is always ample for the passage of the spermatozoan, are the lateral dissections of Pozzi; the posterior dissection by Sims; the partial amputation of West; and other plastic procedures, as numerous in their variety as the various types of stem.

We obstetricians have learned that, except in the presence of marked infravaginal hypertrophy of the cervix, where the external os actually reaches into the lower vaginal zone, that pregnancy will occur if the tissues are healthy—and furthermore, that it is the coincident endocervicitis, rather than the anomaly which prevents conception; hence, we feel that unless the "Huhner test" shows healthy spermatozoa in the fornices with none in the cervix, dead or alive, it is not justifiable to do any operation on this type of cervix. If however, the foregoing conditions are present, low amputation *well below* the internal os will give us our greatest per cent. of successes. We will next consider the effect of trachelorrhaphy on labor, and when in gynaecological or obstetrical practice suture of the lacerated cervix is indicated?

Immediate repair of the cervix is ideal obstetric practice, *but is too dangerous to the woman to permit of its general adoption.* The longer one practises obstetrics, the fewer immediate repairs are done on the cervix.

For it is not so much the injury, as the incidence of infection that changes the cervical tissues; the uninfected lacerations close spontaneously leaving but a nick in the cervical rim. Trachelorrhaphy is applicable in unilateral or bilateral tears without hypertrophy, hyperplasia or infection.

The large proportion of women, however, who have been properly confined; who have been allowed time to dilate the cervix; and who



have been properly cared for during their post-partum period, will need no operation on the cervix until they have finished having their children.

It is interesting to note the small amount of injury that is found among our Italian women, who are cared for by trained midwives; who have been taught that dilatation can be secured by preservation of the membranes, and time, and who have not the false conception that they are better obstetricians than nature.

The effect of subsequent labours on trachelorrhaphy is, to reopen the tear along the line of cleavage, traumatize the wound edges and cause the endometrial lining of the cervix to evert and become infected from the vaginal flora. Recently excision of the cervix and cervical glands as suggested by Sturmdorf, has become a popular procedure, simple in its performance, but far reaching in its effects.

In a recent paper reviewing our end results in some 300 cases of cervical excision; we were disappointed in finding that it had failed to achieve the results claimed for it. Abortion was more frequent; leucorrhoea was not always cured; and not infrequently cervical dystocia complicated the labour.

Amputation just below or through the internal os is another operation upon the cervix which has its effect on future child-bearing. In our series, we found that it not only reduced the incidence of conception, but favoured abortion and premature labour; and when infection had taken place in the operation field, the scar tissue which resulted caused a cervical dystocia.

Among the 90-odd procedures for the correction of retrodeviation of the uterus, the one most frequently done, is, perhaps, the so-called uterine suspension, popularized many years ago by Kelly. This is the operation employed by the occasional operator, as well as by many general surgeons. Theoretically, suspension of the uterus should have no ill effects on child-birth; but practically, it necessitates each year a very large number of Caesarean sections to accomplish delivery. If one will but think for a moment of what actually occurs, it seems strange that any intelligent man will deliberately sew the fundus of the uterus to the abdominal wall in a woman of child-bearing age; unless he has at the same time removed her tubes; or rendered her sterile by one of the

occlusion operations; for the suspension not infrequently becomes a fixation—no matter how careful the technique; and when such is the result, the baby must develop, not within the uterus proper, but in a "bay window" made up of the dilated posterior body wall. As the posterior uterine wall distends, it carries the cervix upward, out of the axis of the pelvic canal and directs it backward toward the promontory, or in some cases, above it.

Of the many methods of shortening the round ligaments, those of Montgomery, Simpson and Alexander give us best results in pregnancy. But why is it necessary to operate on every case of acquired retroversion, when proper care after labour or abortion will correct the condition, unless it is complicated by adnexitis and other pelvic inflammatory conditions. The younger men have apparently forgotten that there is such a thing as the retroversion pessary; yet a pessary will maintain the uterus in position after it has been repositioned and make the woman just as comfortable without operative risk as any of the operative procedures that have been devised for the cure of acquired retroversion. Wherein lies the fault? It may be found in the neglect of post-partum follow-up on the part of the practitioner. A patient after delivery or abortion gets up with a retroversion or he has failed to correct the misplacement at a time when it can not only be repositioned, but can be retained in normal position by a properly fitting support.

It takes about twelve weeks for the uterus to undergo normal involution; involution is largely dependent upon the obliteration of the excessive blood supply that was needed for the development and growth of the pregnant uterus. In this process the chief histological change is found in the blood vessels, many of which are obliterated by thrombi; while others have their lumen diminished by the formation of fibrin rings within the canal; in this way the blood supply is cut down and the muscle fibers undergo degeneration and absorption. Naturally, during this time, the uterus which is of greater weight sags in the pelvis and we have a passive venous engorgement which produces oedema and small round cell infiltration. Laceration and infection retards normal involution; hence, if these oblitative changes are to be accomplished, we must immediately after



the delivery of the placenta begin with those measures which favor normal contraction and retraction of the uterus; during the first few days this is done by posture; the ice bag over the fundus, and ergot or pituitrin or both used internally.

Next, massage and depletion of the pelvic circulation by the employment of the knee-chest position for periods of five to ten minutes, two or three times a day, and when the patient is able to leave her bed she should be instructed in the "monkey-trot" or the "mule-kick." All of these suggestions favour the re-establishment of a more perfect pelvic circulation. Even when these measures are followed and the woman is discharged from the hospital, or the care of her physician, the uterus will still be large, and unless it can be kept in the plane of circulatory equilibrium it tends to descend and retrovert. It is here that the pessary assumes the load, and if properly fitted maintains the uterus in position. In our clinic we have reduced the incidence of post partum and post abortal displacement from 30 per cent to less than 3 per cent by the use of these measures.

In the smaller communities the surgeon is frequently the obstetric consultant, and because of the ease with which a baby can be delivered by the abdominal route, Caesarean section has become extremely popular. This is evident if we will but review the records of any small hospital; but Caesarean section has a definite mortality as well as a morbidity. The mortality varies from 2 to 20% depending on the time of its performance; the length of time the membranes have been ruptured, the hours which the woman has been in labor, the number of vaginal examinations, and the amount of intrauterine manipulation done before section is performed.

A large percentage of babies die in the first week following section—than after normal labour. The loss in birth weight is also greater after section than after infravaginal delivery.

A large proportion of section scars rupture in the course of subsequent pregnancies and labours, intestinal and omental adhesions are not infrequent complications; while occasionally we find the uterus has remained firmly adherent to the abdominal scar high up in the abdomen where it becomes a constant annoyance to the woman, producing abdominal tenderness, dysmenorrhoea and menstrual disturb-

ance. Consequently it will be seen that Caesarean section has certain disadvantages and that there is something in the old dictum that has been handed down by the older men; "once a Caesarean, always a Caesarean." While we obstetricians do not subscribe to this, unless the original indication was that of a contracted pelvis, yet we all recognize that unless the asepsis has been perfect, the convalescence afebrile, the wound made through the lower segment of the uterus and near the median line, that scars, no matter how sutured, do give way.

It is because of these reasons that the low operation has had such general adoption; and furthermore, section through the cervical zone does not interfere with the contractile power of the uterus in subsequent labour or expose the peritoneum to infection from the uterine wound.

Two other common obstetric procedures deserve comment in this paper; one, the unobstetric habit of attempting to deliver the child with forceps before the cervix has dilated to a sufficient size to allow the passage of the presenting part; and the other, the common practice of employing pituitary extract, before the cervix has gone back over the head. These practices are always attended with lacerations. Cervical lacerations frequently extend into the lymphatics and parametrial structures to the side of the uterus, and unless the asepsis has been perfect, and the uterus is maintained in good contraction, and retraction, infection is likely to follow.

This infection may extend through the lymphatics to the peritoneum and produce perisalpingitis and perioophoritis, and result in that condition for which the woman so frequently seeks relief; one-child sterility.

Every patient who gives a history of post-partum infection, carries with her through life some degree of pelvic disorder. Trauma and haemorrhage favour infection.

In such a company as this, it would seem needless to repeat the axiom which is basic in all obstetric practice, namely; that the cervix must be open before the child can come out,—and yet, this fact has not permeated the brains of a large number of our professional brethren, and what is the result—laceration—infection,



subinvolution, retroversion prolapse, pain, sterility and invalidism.

What may we expect from salpingostomy, and what is its relation to future child-bearing? In old puerperal infections with perisalpingitis which result in closure of the abdominal ostium; salpingostomy has its only field.

In all infections beginning in the endosalpinx, salpingostomy is followed by partial or complete occlusion—far better is it, in these infections to depend on time and local treatment as; vaccines, milk and counter irritation; than to give the patient hope, yet to expose her to the dangers of operation, when clinical experience shows that the plastic operations almost always fail.

In doing salpingectomy, it is not uncommon for the operator to ligate the tube without excising the pars-interstitialis. Experience has shown us that the stump of the ligated tube not infrequently becomes patent with eversion of the mucosa, and leads to ectopic implantations of the ovum in the tubal stump. A sufficient number of ectopies, occurring in the stump of the excised tube have been reported to make this an actuality, and should impress the careful surgeon with the necessity of excising the interstitial portion of the tube and properly closing the wound in the uterine cornu with coapting sutures. Another operation that has its effect on subsequent conception, is the routine use of the popular Gilliam procedure. In selecting a retroversion operation, one must always consider the weight of the uterus, the position of the cervix—the development of the ligaments and the relation that the round ligament bears to the tube; if there is a short mesosalpinx, folding or plication of the ligament disturbs the course of the tube and often angulates it; which offers a point of arrest in the transit of the ovum in case of conception.

A number of instances of ectopic gestation due to this cause, namely: with a history of preceding operation on the round ligament, have been reported by several observers. Hence, it is wise to select the particular operation for the particular case; rather than become enthused with the technical simplicity of any one operation.

We are often asked by visitors to our clinic—“what operation do you prefer for retroversion?” We invariably answer, we employ the

procedure best suited to the anatomical findings.

*Myomectomy.*—This operation is one that has great possibilities in the child-bearing woman, for fibroids do produce sterility and are subject to circulatory changes during pregnancy, hence, when they have attained a size or are in a location that will interfere with pregnancy or labour, they should have surgical attention.

Submucous and pedunculated subperitoneal growths should be removed. In interstitial growths myomectomy presents more difficulty and the effects on future child-bearing are less favourable.

*Tumours complicating pregnancy.*—Pregnancy is frequently complicated by a fibroid tumour of the uterus, or an ovarian cyst; fortunately, these tumours seldom complicate labour, unless the fibroid is in the lower segment of the uterus, or in the cervix; the cyst is incarcerated in the *cul de sac*, both however, are subject to torsion and circulatory changes which may produce severe complications, therefore, the question arises; what shall we do in the presence of a pregnancy which is complicated by a fibroid or a cyst?

Fibroids grow rapidly during pregnancy, and they rapidly diminish in size after delivery. The majority of them cause no trouble; are lifted out of the pelvis during labour and go through an involution coincident with the involution of the uterus. Pedunculated tumours may suffer torsion and give rise to the symptoms of an acute abdomen; these need surgical attention.

One general principle should be laid down i.e.; that unless there is torsion of a pedunculated tumour, no attempt at myomectomy should ever be made during pregnancy.

Cysts may be handled in one of two ways; small cysts incarcerated in the pelvis, recognized in the early months, should be removed after the third, and before the fifth month of pregnancy, and the pregnancy left undisturbed. If not recognized until the later months, their removal should be deferred until the onset of labour, when section may be done; the child delivered and the cyst removed.

In this brief review of some of the common procedures, certain points stand out:

*First:* that too many women are operated upon—many needlessly.

*Second:* that sterility operations give poor results and often have unfortunate sequelae.

*Third:* that the gynaeological patient seldom has a complete diagnosis before operation is advised.

*Fourth:* that when possible, operations in the child-bearing woman should be deferred until she is finished having children; that in the interim better obstetrics, more attention to post-partum care, and the judicious use of pessaries will keep these women comfortable.

*Fifth:* that every abdominal operation has its morbidity and is followed by some intrapelvic pathology and a small mortality.

*Sixth:* that greater care as to indications should be used before determining on Caesarean section, and; ..

*Finally:* that the gynaecologist or surgeon should have an obstetrical training before doing surgical operations on the child-bearing woman.