STERILIZATION IN CESAREAN SECTION.

DR. JOHN OSBORNE POLAK, of Brooklyn, N. Y., read a paper with this title.

THE JUSTIFIABILITY OF STERILIZING A WOMAN AFTER CESAREAN SECTION, WITH A VIEW TO PREVENTING SUBSEQUENT PREGNANCIES.

DR. CHARLES M. GREEN, of Boston, read a paper on this subject.

STERILIZATION IN CESAREAN SECTION.*

BY

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THE question of sterilization after Cesarean section must be determined in the individual case, by the surgeon, after a consideration of the following propositions: *i.e.*, the ethical question and its import to the community and the parties concerned. Second, the dangers to which the woman is subjected,

*Read before the American Gynecological Society, April 20–22, 1909.

by a repetition of the operation in case of subsequent pregnancy, and, finally, the risk to the patient from rupture of the uterus in succeeding pregnancies and labors.

The first proposition, I believe, has been answered by Green, in a paper read before this Society in 1903, in which he says: "I venture to assert that the only safe and moral ground for the medical profession is that based on modern science, uninfluenced by sociological considerations."

"If a woman comes to a Cesarean section and recovers, she and her husband, if she has one, should be informed of her condition, and of the prognosis and treatment in event of future pregnancies. If subsequent pregnancy ensues, the responsibility of treatment then rests with the obstetric surgeon, but the responsibility for her condition rests elsewhere." Spencer, in a discussion before the London Obstetrical Society in 1905, concurred in these views. But Williams, you may remember, in the discussion of Green's paper, distinguished between pauper patients and those in the higher walks of life. He stated that he did not feel justified in allowing pauper patients to be subjected to repeated sections, owing to their mental, physical, and moral development, unless they specially desired it.

Referring to women in the higher walks of life, he felt that they should be made to share the responsibility with the obstetric surgeon. He, however, advises sterilization, even in this class of patients, after a second section. This I find to be the view of the majority of American obstetricians who have replied to my inquiries and who have had experience in elective secondary sections. The danger from repeated abdominal deliveries is said to be less than from primary operations; while this is not so, if we compare the statistics with those of primary elective sections, it is true when compared with sections done late in labor.

In 150 repeated abdominal deliveries from the clinics of the best operators, in which I have included Wallace's analysis of sixty cases, the mortality amounts to nearly 5 per cent. Two of these women had had five deliveries, one four, thirty-two three deliveries, and 116 had been operated on twice. This percentage should be materially reduced in present-day practice, as a woman who has undergone a section should be watched in the latter months of her pregnancy, and have her delivery done as an elective procedure a week or ten days before she actually

falls in labor, and thus avoid the possible danger of uterine rupture. Sterilization may be done at the time of this section, if the patient desires it. The presence of adhesions between the uterus and the abdominal parietes make it possible for a certain proportion of these sections to be done by the extra-peritoneal route, though I question the wisdom of such an attempt, as the extra time consumed in the operation more than balances the risk of opening the peritoneum. By taking advantage of modern surgical technic and making the procedure an elective one, the maternal death rate can be reduced to that of aseptic celiotomy in ordinary pelvic work.

The danger of rupture of the uterus in subsequent pregnancies and labors is a reality and not a fancy. Olhausen has collected 120 ruptures of the uterus following Cesarean section, which includes the Prusman-Henkel case, delivered twice by Cesarean, in which the mucosa had grown into the cicatrix, weakening the union in the uterine wound. Brodhead has recently published 20 cases of rupture through the old uterine scar, making the number of recorded cases in which spontaneous rupture has occurred in the latter days of pregnancy or during labor through the primary uterine scar sufficient to convince the most skeptical that this accident is more than a possibility, notwithstanding what form of suture or suture material is selected.

A knowledge of these facts cannot but modify the advice of the obstetric surgeon; and this danger should always be explained to the woman and her hubsand before undertaking a section, that they may be made a party with the surgeon in sharing the responsibility. There is, however, a class of cases, such as those reported in a personal communication by Cragin (who has never voluntarily sterilized a woman, yet who has done hysterectomy for imperative indications in ten of his sixty sections), and of Leopold who did twenty-nine Porros in 100 abdominal deliveries, and of E. P. Davis who has done celio-hysterectomy or the Porro operation in twenty-nine of his sixty cases for definite pathological conditions, which jeopardized the woman's subsequent life or health, and demand sterilization by the removal of the uterus at the time of the Cesarean. In this class we may mention deliveries complicated by existing infection within the uterus before operation or by the presence of fibromyomata, or cancer of the uterus obstructing free drainage, or uncontrollable hemorrhage from uterine atony, or patients whose mental, physical, and moral development is such that

repeated pregnancies will prove to be a marked danger to her well-being or make her a burden to the community.

It has been shown that a woman who subjects herself to repeated sections assumes a certain degree of risk, which, while it may be minimized by elective abdominal delivery in expert hands, nevertheless, has a definite morbidity and mortality which must remain, do what we will. However, from the standpoint of the obstetric surgeon, no operation which has for its purpose the deliberate sterilization of the child-bearing woman is justifiable at the time of a primary section, except in the presence of definite and apparant and pathological lesions which in themselves jeopardize the future life and health of the woman. We therefore may state it as our opinion and practice that (in the absence of existing septic infection in the uterus, or carcinoma, or fibromyomata of the uterus, all of which of themselves indicate a hysterectomy or a Porro operation) no means for the prevention of future pregnancy should be arbitrarily taken by the surgeon, except in the physically unfit, for in my opinion the question of future pregnancy should be answered by the patient or her husband before the primary section is performed. However, should a pregnancy follow the primary section for the absolute indication, the patient may be delivered with comparative safety a week or ten days before term by the abdominal route, at which time sterilization should be done with the consent of the woman or her husband.

Various methods have been employed to secure sterilization. This end has been accomplished by the supracervical amputation of the uterus, by ligation and excision of the tubes, and by ablation of the ovaries. The latter procedure will find but a small field for its application in Cesarean operations, as the ovaries are usually actively functionating, and hysterectomy or excision of the tubes will meet all the indications without producing an operative menopause, and the consequent nervous phenomena which follows oophorectomy in the woman during her period of sexual activity.

Celiohysterectomy not only secures to the woman immunity from future pregnancy and from the dangers of repeated operation and rupture of the old uterine scar, but presents other advantages, *i.e.*, the avoidance of the dangers resulting from the retention and decomposition of the lochial discharge, as well as the avoidance of the possibility of visceral and parietal adhesions and fistulæ. On the other hand, hysterotomy is a safe, quick,

and simple operation, when both patients are in good condition, and excision of the tubes adds but little to the time of the operation. Excision of the uterine end of the tube by an elliptic incision into the uterine cornua, encircling the tube, and then closing the incision in the uterine muscle with catgut sutures has been the method which I have employed in three of the four cases which I have sterilized. Ablation of the tube, controlling the hemorrhage with a running catgut suture along the top of the broad ligament, was done in my first case. Future pregnancies have been prevented by this procedure by the request of the patient.

Harris and Fry suggest clever modifications, which interrupt the patency of the tubes, which, while closing the uterine ends of the oviducts, leave them *in situ*. Harris implants the severed proximal end of the tube on the upper posterior aspect of the fundus, by flattening it out, and suturing it to a peritoneal area previously denuded, while Fry buries the cut proximal end in the folds of the broad ligament. Both of these procedures leave the lumen of the tube intact, which makes it possible to reestablish a connection between the cavity of the uterus and the ostium abdominale, should conditions demand a reopening of the right of way.

Simple ligation of the tubes or division of the tubes between ligatures does not secure to the patient a positive immunity against future pregnancy. This has been shown by the number of reported cases of ectopic gestation which have occurred in the stumps of the ligated tubes following salpingectomy. Even resection of the tube from the cornua may not secure perfect closure, unless the intramural portion of the tube is deeply excised and the muscular gap closed with sutures. Twice within the past year pregnancy has occurred in the stump of a tube which was ligated and ablated in my clinic and once in which the tubal ostium in the cornua has been excised, and the ovary sutured high near the line of incision to prevent its prolapse.

It would seem, therefore, that when sterilization is decided upon, hysterectomy or excision of the uterine portion of the tube, with or without total ablation of the distal portion, are the methods of choice. Total ablation adds something to the time of the operation, owing to the vascularity of the broad ligaments in pregnancy, and is often followed by some degree of inflammatory exudation in each side. I therefore adopted in a very recent case the method suggested by Harris, and already de-

scribed in these brief notes. It possesses the advantages of speed, little or no hemorrhage or trauma. Each procedure which may be employed for sterilization when this step has been finally determined upon has its distinct indications and limitations.

A celiohysterectomy should be done when the uterus is infected or when it is the seat of a myoma, or a malignant growth, or when there is uncontrollable hemorrhage from extreme uterine atony, or as was present in one of my recent but unreported cases, a complete cicatricial atresia of the vagina. On the other hand, excision or ablation of the tubes should be elected in uncomplicated or elective sections, when the patient desires the sacrifice, or in the second section in the same patient, if her consent to the ablation can be obtained.

In doing a hysterectomy, or a hysterotomy with excision of the uterine ends of the tubes, the ovaries should, as a rule, be retained, unless they are the seat of gross pathological change.

In the course of thirty or more sections in which the writer has participated, but two ovaries have been found diseased, each of these was a dermoid cyst which had become incarcerated in the pelvis and had acted as the obstruction to the progress of labor, which was the indication for the abdominal delivery. There is no reason why extirpation of one or both ovaries should be done in the course of hysterectomy, when they are not diseased when the operation is interpartum, any more than when removing the uterus for a fibroid tumor. While there is a slight technical difficulty in leaving the ovaries when the uterus is extirpated, we well know the physical and psychical advantages to the patient by retaining the ovarian secretion.

In view of the foregoing facts, I would feel that the obstetric surgeon should sterilize the woman who is subjected to a Cesarean section: First, if she requests the procedure. Second, after the second section in the presence of the absolute indication, if the proper consent can be obtained. Third, if the pathological conditions present necessitate extirpation of the uterus in the interests of the patient's life and health, sterilization may be done if necessary without consent.

Further, in elective and uncomplicated hysterectomies, excision of the proximal ends of the Fallopian tubes at their origin in the uterus, and occlusion of the severed end by flattening it out and suturing it to the peritoneum on the posterior fundal wall is the operation of choice. While, when infection, disease, or atony with uncontrollable hemorrhage of the uterus is present,

hysterectomy or the Porro operation should be elected to secure to the patient immunity from future conception and gestation.

Finally, whenever possible, one or both ovaries should be retained that an operative menopause may be averted.

287 CLINTON AVENUE.

THE JUSTIFIABILITY OF STERILIZING A WOMAN AFTER CESAREAN SECTION, WITH A VIEW TO PREVENTING SUBSEQUENT PREGNANCIES.*

BY

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AT the meeting of this Society, in Washington, in 1903;† I presented a paper giving the experience of the Boston Lying-in Hospital in the repetition of Cesarean section on the same patient. At that time repeated section had been performed nine times on eight patients; that is, second section had been done on eight women, and in one case section had been repeated twice. In this series of cases one mother was lost—a mortality of 11 per cent.; there was no fetal death. In this paper I stated that while the judgment of the surgeon was left free to deal with pathological conditions of the uterus and appendages, the policy of the hospital is never to remove, or impair the function of healthy, organs with the object of preventing subsequent pregnancy. This policy has continued in force, and in the six years that have elapsed since my first paper on this subject the Boston Lying-in Hospital has had a further experience with twenty repeated sections—thirteen second sections, five third sections, and two fourth sections, with one maternal death—a mortality of 5 per cent. There has been no fetal loss in this series. Combining these two series of repeated sections, which include all the cases discharged from the hospital up to January 1, 1909, we have a total of twenty-nine cases, with two maternal deaths—a mortality of 6.9 per cent.—and with no loss of fetal life. My personal experience is limited to thirteen cases,—eight second sections, three third sections, one fourth, and one fifth section. I have had no fetal loss; but the woman on whom I first performed a repeated section, in 1897, died of shock, thus making my maternal mortality 7.7 per cent. In the first seventy-five primary sections performed in the Boston

*Read before the American Gynecological Society, April 20–22, 1909.

† Transactions of the American Gynecological Society, vol. xxviii, p. 120, 1903.

Lying-in Hospital there were six maternal deaths, a mortality of 8 per cent. It would therefore appear that the risks of repeated section are somewhat less than those of a first operation.

In the light of this experience I am even more strongly convinced than I was six years ago, that it is not justifiable to sterilize a woman in performing Cesarean section, even if she and her husband request it. The burden of proof to the contrary rests with those who advocate sterilization. If the indication for Cesarean section is absolute, and husband and wife are so informed, they may abstain from subsequent pregnancies; or, in the event of subsequent conception, the woman may have repeated section with reasonable safety. If the indication is relative, and the disproportion of minor degree, the woman in succeeding pregnancies may be safely delivered of living children by the vagina or she may indeed deliver herself. This is the experience of two women who have each safely submitted to three Cesarean sections in the Boston Lying-in Hospital: one patient entered the hospital and delivered herself of a living child which weighed the same as her first child delivered by section, although considerably smaller than the second and third children, which were also delivered by section; the explanation lies in the fact that in the fourth labor, the uterine contractions were very strong, and the fetal head was moulded and driven through the pelvis, whereas in the former labor the pains were relatively weak. In the case of the second woman, whose sections on a relative indication were in 1900, 1901, and 1905, she entered again in 1908, and delivered herself of a living child weighing 13 ounces less than the child for which section was originally performed. One of the reasons given in support of the opinion that it is justifiable to sterilize a woman at her first section is that there is danger of uterine rupture in subsequent labor. These two women had each had three hysterotomies with suture, and yet delivered themselves in fourth labors without uterine rupture. A further experience with two cases of uterine rupture,—one traumatic, which recovered without suture, a second, spontaneous, recovering after laparotomy with suture, each passing through subsequent labor without rupture—confirms me in the belief that possible uterine rupture in succeeding labors is not a sufficient justification for sterilizing a woman after one or two Caesarean sections, provided that uterine suture is carefully performed.

It is my belief that a husband and wife may not ethically request that either be sterilized with a view to preventing pregnancy and to avoiding repeated Cesarean section. It is not likely to be requested that the husband be sterilized; and yet the request would be quite as reasonable as that the wife should submit to sterilization. Would it be justifiable to sterilize a woman in order that she might become a prostitute without the possibility of becoming pregnant? We know that we may not commit murder or homicide: we know that suicide is a moral and statutory offense, and that attempted suicide is punishable. If it is morally and legally wrong to destroy human life, is it not also immoral to destroy any human function? Do not some of us remember the well-merited contempt visited upon men, who, to avoid service in the War of the Rebellion, multilated themselves in a way to prevent acceptance by the examining surgeon? *Qui facit per alium facit per se;* and if it is culpable for one wilfully to kill or mutilate the body, it is also culpable to cause or allow the same purpose to be effected by another. Whether husband or wife is the one to be sterilized, it is obvious that the act may be bitterly regretted in the event of a second marriage. Either man or woman marrying a second time may well wish for offspring. In the case of a woman with an impossible pelvis, she might wish to become pregnant by a second husband, even at the risk of a repeated section; and action for tort may yet be brought by the second husband and sterilized wife, even when written request for sterilization had been made, on the ground that the full import of the operation was not clearly understood. I would prefer not to appear before a jury in such a case.

One reason given for the justifiability of sterilizing a woman after her first or second section is that owing to laziness or indifference in looking out for herself, a woman with a Cesarean pelvis may neglect to place herself in due time under proper care and may die in labor as a result. If an adult is so ignorant or indifferent to safety as to walk on the railway and is killed by a passing train, shall we therefore abolish the railroads? If after a first section the obstetric surgeon does his full duty, and points out what should be done in the event of a second pregnancy, carefully explaining to husband and wife the true conditions, surely the responsibility of self-preservation properly may be left with those most interested. In a somewhat long hospital experience, I have known of no single case in which disaster has

occurred from the failure of a woman after her first section to place herself in touch with the hospital or with competent outside advice in the event of a subsequent pregnancy.

Other reasons given in support of sterilization are that many women that come to Cesarean section belong to the depraved and degenerate classes; that they and their progeny may become a burden on the State, and that the continued fertility of these women is therefore undesirable. Granting this, it is also true that the continued fertility of depraved, syphilitic, epileptic men is also undesirable. These are sociological questions for civil law to settle; and to my mind the time has not yet come when the medical profession should be vested with the right, or burdened with the responsibility, of deciding matters of such importance to the body politic; they may well be left to the legislature and the courts of law.

The only condition that can make a repeated section more difficult and dangerous than a primary section is the existence of adhesions, the separation of which may lengthen the time of operation, may result in subsequent oozing of blood, or possibly lead to more extensive adhesions. The existence of adhesions has not, however, been a serious embarrassment in the cases of the Boston Hospital, although in many cases adhesions have been found. In my earlier cases I used always to separate the adhesions, but for several years I have given up eventrating the uterus, even in primary sections, so that even if there are numerous adhesions it is possible to incise the uterus and remove the fetus without disturbing the adhesions found. I am persuaded also that if the operator will abandon the common ambition to close the abdomen in less than half an hour, if he will protract his operation long enough to make a careful seroserous suture, if he will take the same pains in his Cesarean sections as in his other abdominal operations, there will seldom be adhesions. In my last repeated section, in March of this year, there were no adhesions whatever.

In my former paper above referred to, I quoted the case of a primipara with a generally contracted, flat, rachitic pelvis, c. v. 6.5 cm., whose convalescence from her first section was protracted by the breaking down of her abdominal wound and sloughing of the seroserous sutures. The result of this surgical misadventure was a firm, broad adhesion of the uterus to the abdominal wall. It fell to my lot to perform her second section: incision through the scar led directly into the uterus, and a

sufficient opening was made to deliver the fetus without entering the peritoneum. Dr. Newell subsequently performed a third section on this case, and I have since performed a fourth and a fifth section. The convalescence in each of these four repeated sections was uneventful. In this case the uterus, from its extensive adhesions, was held high in the abdomen, the fundus just below the umbilicus, and the cervix just within reach per vaginam. The woman has had no symptoms, however, from this high position of the uterus.

In the light of my experience with this case I determined to try the effect of a sufficiently long and broad artificial fixation, with a view to subsequent extraperitoneal section. I therefore selected two cases of young primigravidæ, each with a true conjugate of less than three inches. The uterus was in neither case eventrated, thus insuring a shorter abdominal incision. After delivering the child I sutured the uterus in the usual way with a deep and a serous suture of linen; while this was done the uterus retracted slightly below the umbilicus. The abdomen was then closed by passing linen sutures through the fascia and peritoneum, including the uterine peritoneum for a space one-half inch wide on each side of the uterine incision, extending from just above to just below the line of uterine suture, and care was taken to overlap the fascia. This procedure should result in an adhesion one inch wide and somewhat longer than the incision of the uterus. One of these two patients left the hospital in March in good condition, with a high fixation of the uterus; the other is advanced two weeks in uneventful convalescence. I await with interest the return of these two women for second section; and if my technic has not been at fault, they should be delivered by section repeated any number of times with a negligible risk. Thus, perhaps, the dread of repeated section may in time largely disappear, and the justifiability of sterilization cease to be discussed. It should be remembered that the safety of repeated Cesarean section does not concern the hospital class alone. Not a few married men and women of birth and breeding are to-day abstaining from the sexual relation from the fear of a repeated section. If the comparative safety of repeated section can be established, peace of mind and happiness will be added to an appreciable number of men and women of all classes in our social life.

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DISCUSSION ON THE PAPERS OF DRS. POLAK AND GREEN.

DR. E. W. CUSHING, of Boston, did not think Dr. Green or even the Boston Lying-in Hospital had a right to determine whether a woman should be sterilized or not. A woman's body belonged to herself. If she had been malformed by nature and could not be delivered of a child without repeated surgical operations which involved the risk of life, and she desired to avoid that subsequent risk by having a sterilizing operation done, she had a right to do so.

DR. HENRY D. FRY, of Washington, D. C., said it was his rule to explain the situation to the woman and her husband and allow them to decide whether or not she should be sterilized. He did not believe we could make a dividing line on account of the social position of the woman and say we could sterilize those of the lower class and not those of high social position. If such a position were taken, women of humble position, who had given birth to children who had subsequently become great men, would be sterilized.

PROF. HOFMEIER, of Würzburg, Germany, had performed sterilization not only with the consent of the woman and her husband, but at their urgent request. He did not think it was possible for women to abstain from sexual intercourse and subsequent pregnancy, as indicated by Dr. Green.

DR. CHARLES JEWETT, of Brooklyn, performed Cesarean section two months ago on a woman upon whom he did the same operation two years previously, and at the request of both the husband and wife, he felt justified in doing an operation of this character. He resected the tubes from the cornu of the uterus, then simply caught the ends of them down upon the suture line.

DR. HERBERT R. SPENCER, of London, did not consider we were justified in saying, in the absence of pathological conditions, such as fibroid tumors, cancer, or infection, that a woman should not have any more children. From a purely ethical standpoint he could not see any difference between consenting to operate on a woman and preventing her from having children by this sterilizing operation and committing an abortion because she asked it. The so-called sterilizing operation was not always reliable. A distinguished abdominal surgeon in England supposedly sterilized a woman, but subsequently, much to her annoyance and mortification, she again became pregnant, and he delivered her of a child. He delivered this woman for the seventh time after so-called sterilization.

DR. J. MONTGOMERY BALDY, of Philadelphia, said that nature had so arranged matters that some women, apparently healthy, could not bear children. Pathological processes set in which rendered them incapable of doing so. A woman was not in this world to be a beast of burden, although she had reproductive duties to perform, and there came a time when, after she had

performed those to the best of her ability, nature had so deformed her, perhaps maimed her, that she no longer could be delivered of a child without a surgical operation, and for the sake of her health, comfort, and happiness, she was the best arbiter as to whether sterilization should be done or not. His sympathies went out largely to women in this respect. They had a right to say, and an exceedingly serious say, in regard to many of these operations. If a woman, guided by the conscientious judgment of the physician, decided to be sterilized, we had a right to sterilize her and prevent reproduction in the future in this individual case, but this did not mean that this operation should be done on every woman who requested it.

Dr. Andrew F. Currier, of New York, placed himself on the side of those who believe that it was an injustice to a woman, aside from any desire she might have for children, to subject her repeatedly to an operation which risked her life. The desire for offspring was a natural and proper one in most cases. The mere physical conditions alone which resulted or were likely to result should be a strong argument and should influence us very materially in regard to the question of future pregnancy.

Dr. Seth C. Gordon, of Portland, Maine, claimed that a woman had a right to say whether she should be sterilized or not. Oftentimes a woman would say, "Doctor, I don't want a child." But where she was subjected repeatedly to an operation which was known to be dangerous to life, in order to be delivered of a child, she certainly had a right to say whether or not sterilization should be performed.

Dr. C. C. Frederick, of Buffalo, had sterilized women at their request and that of their husbands in cases where Cesarean section had been done for the absolute indication, with narrowing of the pelvis to a degree that it was absolutely impossible to deliver a viable child through the pelvis.

Dr. Albert F. A. King, of Washington, D. C., said that self-preservation was the first law of nature and preservation of the species was the second law. He agreed with those who had expressed the opinion that women and their husbands had a right to decide this question of sterilization.

Dr. J. Wesley Bovee, of Washington, D. C., concurred in the view that the husband and wife should decide whether the woman was to become pregnant or be sterilized, but the surgeon had not the right to act as he chose to produce sterility. The decision of the question rested largely with the husband and wife, and not with the surgeon. The surgeon had no right to remove a woman's possibility of future pregnancy except for grave pathological lesions in the organs of generation themselves.

Dr. George Gellhorn, of St. Louis, said there was a simple way of sterilizing the male by resorting to vasectomy. This operation could be done in a minute or so under local anesthesia, and it did not leave a scar. There were able-bodied men present, and yet how many would be willing to have vasectomy performed?

He thought we should be a little more charitable and not do unto others what we did not want done unto ourselves. He denied the right of any physician to sterilize any woman, and only for grave reasons should the operation be acceded to, and then it should only be done by consultation with one or more other physicians.

DR. WILLIS E. FORD, of Utica, N. Y., expressed the hope that the society would not go on record in favor of the sterilization of women, because if the members opened the door, it might be opened still wider for other operations which ought not to be done.

The papers were further discussed by Drs. Egbert H. Grandin and Philander A. Harris.