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TREATMENT OF INTRALIGAMENTOUS AND RETROPERITONEAL UTERINE MYOMATA.*

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I assume that finally small intraligamentous or retroperitoneal myomata requiring surgical treatment will be removed *per vaginam* by nearly all abdominal and pelvic surgeons. Experience has demonstrated that such tumors may be more expeditiously and successfully removed through this channel with less shock, more speedy convalescence, and freedom from subsequent intestinal adhesions to the abdominal incision and ventral hernia. The dangers of injury to the ureters, bladder, or large vessels is diminished, and hæmorrhage is with few exceptions easily controlled. If the myomata are entirely within the broad ligaments, or in the uterus without extending to the mucosa, they may sometimes be enucleated without removal of the uterus, leaving the woman capable of bearing children. In broad-ligament myomata it is usually best to attempt enucleation before hysterectomy, and if, as the operation progresses, it becomes necessary, the uterus may be removed. If small myomata lie in the anterior wall of the uterus, they may be enucleated by reaching them through the utero-vesical fornix, after the method of anterior colpotomy as practiced by Dührssen and Martin, carefully suturing with catgut the cavity from which the tumor is removed, and closing the vaginal incision; and small tumors in the posterior part of the uterus may likewise be enucleated through the utero-rectal fornix. Where it is possible to save the uterus in the removal of intraligamentous or retroperitoneal

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myomata, or in the removal of any uterine myomata, it should be done if the tubes and ovaries are healthy. There are, however, many cases of intraligamentous or retroperitoneal myomata that can not be removed without performing hysterectomy, and in such cases both ovaries and tubes should also be removed.

The technique of morcellation is so well known that it is hardly necessary to enter into any description of the various methods devised and practiced by vaginal hysterectomists. Each case, however, may in details require a separate method, and the operator must be prepared for any emergency. Where the tumors can be enucleated without excessive hæmorrhage, the uterine and ovarian arteries need not be interfered with; but in many cases the conditions are such that, both in enucleation without or with hysterectomy, it is necessary to ligate or clamp the uterine arteries before attempting removal of the tumor or the uterus.

But the especial purpose of this paper is to describe a method of operating in hysterectomy for intraligamentous or retroperitoneal myomata too large to be removed *per vaginam*, and so firmly wedged in the pelvis as to make the abdominal operation difficult and protracted, or even impossible without great danger to important structures. The chief dangers in these cases are wounding the bladder, hæmorrhage from inability to ligate the uterine arteries, and injury to the ureters in attempting such ligation or in enucleation, if removal is to be solely accomplished through the abdomen. Since in every hysterectomy we should, after the woman is on the operating table, thoroughly wash and disinfect the vagina, and sometimes curette the uterus, it will require but little more time to separate the vagina from the cervix and ligate or clamp the uterine arteries, which, if possible, should be done in continuity near the pelvic wall beyond the vaginal branches. We may then enucleate and separate the lower part of the uterus from its attachments, being careful to hug the uterus or tumors so as not to open the peritoneal cavity. The patient having been previously prepared for a cœliotomy, the abdomen is now opened and the operation completed from above. The adhesions, if any, having been separated, the ovarian arteries are ligated close to the pelvic wall, thereby practically cutting off all blood supply to the uterus or tumors. Having made a circular incision through the capsule entirely around the uterus and tumors near the fundus, which in some instances may include both ovaries and tubes, enucleation may be rapidly proceeded with, hugging the uterus or tumors so as to make no opening in the capsule, or the capsule may be incised at any point or after any method the operator elects and best meets the indications. The danger of hæmorrhage or of wounding the ureters or bladder is reduced to a minimum. If after enucleation there is hæmorrhage, it may be easily controlled by ligatures or tampon; and if a ureter is injured and is not immediately implanted into the bladder, the leakage will be extraperitoneal, and the urine passing out through the vulva will not cause peritonitis or sepsis. The capsule may be sutured in the lower part of the abdominal wound, removing all superfluous tissue, and the incision closed above. It will be clearly seen that by this procedure, when the operation is completed, all wounded surfaces are extraperitoneal, so that there is no danger of intraperitoneal hæmorrhage, sepsis, or adhesions. There will usually be no ligatures or sutures left in the peritoneal cavity except the two on the ovarian arteries; it is possible that in some instances a small catgut suture may be necessary to close connective-tissue spaces on either side caused by removal of the ovaries and tubes. The cavity of the capsule and the vagina may be, as conditions may indicate, loosely or tightly tamponed with iodoform gauze, so that we have double drainage, and may finally cleanse or disinfect the sac cavity and vagina by passing a stream of sterilized water or germicidal solution from above out through the vulva. The same technique may be followed in removal of other forms of uterine myomata, and I believe will tend to lessen the mortality in the practice of the average surgeon, because it is more easily and more rapidly completed. I am sure any one who has done much vaginal hysterectomy will experience less difficulty in separating the vagina from the cervix and in ligating or clamping the uterine arteries from below, and I believe it is the correct treatment even if afterward the removal of the myomatous uterus is completed after the usual abdominal methods. Experienced operators may speedily ligate the uterine arteries from above, but with the average gynæcologist the procedure is protracted and dangerous. I do not believe it wise to leave the lower part of the cervix in these operations, for it serves no good purpose, and may possibly cause subsequent trouble.

The technique of Dr. Pryor's operation in total hysterectomy for intraligamentous myomata, where the tumor unfolds but one broad ligament, will be more rapid and more successful by adopting the vagino-abdominal method, and then ligating both ovarian arteries before dividing the broad ligament on the free side so as to enucleate from below. But I have seen several cases where both broad ligaments were separated and the tumor so tightly wedged in the pelvis that it was impossible to reach the uterine arteries from above until after extensive enucleation and excessive hæmorrhage; the dangerous hæmorrhage may now be controlled if the uterine arteries are ligated *per vaginam.*

In cases where the broad ligament on one side is free it may be incised at its upper border and separated to the vaginal opening, and the uterus and tumors enucleated from below and the capsule fixed in the abdominal incision; or, if the operator objects to the extraperitoneal treatment of the capsule, it may be sutured and left in the abdominal cavity. The same technique may, in a degree, be possible in some cases where the tumors have involved both broad ligaments.

In Dr. Senn's operation for uterine myomata, while the capsule is fixed in the abdominal wound the uterine arteries are ligated at the bottom of the sac, and there is no drainage through the vagina; hence suppuration is more extensive and convalescence prolonged.

While I have not seen a description of vagino-abdominal hysterectomy where the above technique has been carried out, it may be that others have performed the same operation; and I feel sure that when it is given a fair trial, it will in many cases meet with the approval of successful operators.