Péan, and others deliberately resorted to laparotomy for the purpose of removing the uterus.

Between September, 1869, and February, 1872, Péan had performed the operation five times for fibrous tumors of the uterus, and four times for fibro-cystic tumors, with the result of two deaths out of the nine cases. One death is ascribed to retro-uterine hæmatocele on the eleventh day; the other to shock, fifty-seven hours after the operation. He gives a table, intended to be complete, of forty-four cases performed down to 1872, including those of Koeberlé, of which fourteen recovered, and thirty died. But this list is certainly not complete.

Before performing the operation the same general preparations which are practised before performing ovariotomy are indicated. The time to be selected should be within a week after a menstrual period.

The instruments required are the same as for ovariotomy. But there should be provided in addition several powerful *serre-nœuds*, such as those of Dr. Cintrat, and wires of different sizes.

Since much cannot be gained by lessening the bulk of the tumor, the abdominal incision must generally be longer than is necessary for ovariotomy. When the tumor comes into view, the extent to which its volume can be lessened must be considered. If there are cysts, these must be punctured. If it is solid, and too big to come through the wound, the process of cutting up, "*morcellement*," of the tumor must be resorted to. This is effected by piercing the middle part of the tumor, or if that cannot be done, the most accessible part, by several metallic wires, and tightening them by *serre-nœuds*. These *serre-nœuds* resemble small wire écraseurs. The circulation through the part above the ligatures being thus stopped, this part may be freely cut away, and the surgeon may proceed to deal with the rest.

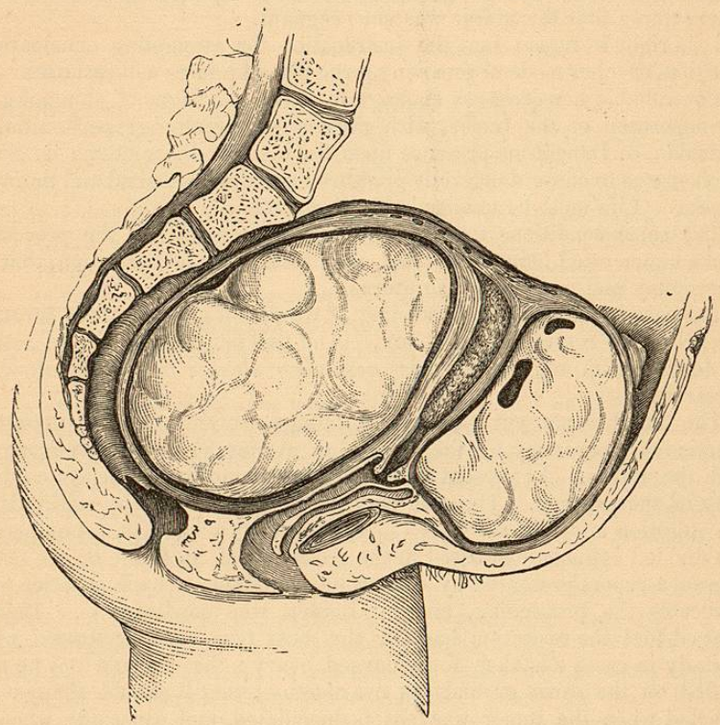
Péan insists that the success of the operation depends upon securing the peritoneum from the entry of fluids into it. Hence if a cyst is to be opened it is first drawn outside the abdomen. In separating adhesions like care is extended to obviate bleeding into the peritoneum. Small bleeding vessels are tied with silk, and the ends cut short. The actual cautery by the aid of the cautery-clamp should be used to sever parietal or omental adhesions.

When the tumor has been drawn out of the abdomen the question of how best to amputate it will be decided by the conditions of its connections. If attached by a small pedicle, it may be clamped like an ovarian tumor, or ligatured by traversing the pedicle by two wires or pieces of whip-cord to be drawn tight by *serre-nœuds*. If the pedicle be large, and have a very broad attachment to the uterus, it becomes a question whether the immediately involved part of the uterus or a greater part of the organ shall be removed. Péan advises in this case to remove the uterus at the neck. Besides having lost two cases in which he confined himself to removing only a part, whilst he saved those in which he practised amputation at the neck, he gives the following good reasons for adopting the latter course: In the cases which compel resort to laparotomy, the uterus is always hypertrophied, perhaps otherwise diseased; a much larger surface must be divided and exposed in removing a part of the body of the uterus than by amputating at the neck, laying open large

sinuses which favor pyæmia; and the supra-vaginal amputation is really easier.

In another class of cases the relations of the tumor are such that there is no choice but to remove the whole uterus. By catheter in the bladder the relation of this organ to the neck of the uterus is made out; this part is traversed by two straight, rigid needles, perpendicular to each other, preserving as long a pedicle as convenient. This done, a strong curved needle notched at the end is passed through the pedicle or uterine neck *immediately above* the most superficial of the two straight needles traversing the pedicle. The notch catches a metallic thread which, being brought through by its loop, forms a double ligature. These are then tightened by the *serre-nœud*. If the part be very vascular another ligature may

Fig. 158.



Large Fibroid Tumors, one in the Anterior, the other in the Posterior Wall of the Uterus, the whole removed by Laparotomy. Preparation in St. George's Museum (R. B.).

be passed *beneath* the two straight needles. The uterus may then be removed. There is no valid reason against removing the ovaries along with the uterus. The end of the stump is brought outside the abdomen, the four ends of the straight transfixing needles and the ligatures rest upon the abdominal wound, and the wound is closed as after ovariotomy. The after-treatment resembles that for ovariotomy.

The case, of which Fig. 158 is an illustration, affords instructive evidence of some of the effects of large uterine tumors. The case is recorded at length in my Memoir on "Retro-uterine Tumors," in *St. George's Hospital Reports*, 1877. The subject had been married several years without becoming pregnant. At last severe pelvic distress, retention of urine, fever, and peritonitis set in. The pelvis was found blocked by the tumor. It could not be dislodged. Laparotomy was performed and the whole uterus was extirpated. The drawing is an accurate representation of a section. The uterine cavity is seen locked between two tumors. A fœtus of two and a half months' development was found in it. The larger or intra-pelvic tumor had fallen into necrosis. The woman seemed relieved by the operation for a time, but sank from exhaustion in thirty-six hours. The preparation is in St. George's Museum; and it is a matter of interest to note that in the same museum is a preparation nearly like it, excepting that the uterus was not pregnant.

It is right to repeat that the justification for attempting enucleation, avulsion, or other mode of removing large fibroid tumors will rest upon—1. Uncontrollable hemorrhages endangering life; 2. Signs of sloughing or decomposition of the tumor, with present or threatening peritonitis or pyæmia; 3. Dangerous pressure upon the bladder and rectum; 4. Such great size as to cause dangerous pressure upon the abdominal and thoracic viscera. Life must be unmistakably threatened.

The same conditions threatening life, and removal by the processes above enumerated being precluded, may justify the last resource, that of laparotomy and removal of the uterus.

The case is analogous to dystocia. If we cannot effect delivery through the pelvis, we resort to laparotomy. And this must be the rule of action in dealing with uterine fibroids, *assuming always that extirpation is necessary*.

The time has not yet come for forming a confident opinion upon the practice of laparotomy for the removal of uterine fibroids either alone or with the uterus. At present there is little ground for enthusiastic advocacy of the practice. The case may best be summed up by stating that the question is *adhuc sub judice*. We must for a while be content with the divided opinions expressed in the Academy of Medicine on the occasion of a report presented by Demarquay on Memoirs by Koeberlé, who advocates the proceeding, and by Boinet, who condemns it. Boinet showed that the operation had for the most part been performed accidentally in cases mistaken for enlarged ovary; that it could not be defended on the same grounds as ovariotomy; that it should always be rejected when the tumor was not pedunculated, and especially when it involves the entire or partial removal of the uterus. Demarquay agreed with Boinet.

On the other hand, Richet cautioned the Academy against pronouncing any summary condemnation of an operation which at present is dreaded as ovariotomy once was.

Thomas (1874) summed up twelve recent cases observed in America; of these eleven died. Pozzi tabulates seventy-five cases, not counted by Péan; of these forty-eight died. The causes of death were: hemorrhage, peritonitis, shock, fibrin-concretion in the heart, septicæmia, exhaustion.

I have seen death from all these causes. Another cause of death is intestinal obstruction (Broca and Dolbeau).

If decomposition of a tumor have begun, and constitutional symptoms from absorption appear, a decided attempt at least should be made to bring away the tumor. The patient being under chloroform, the hand *in utero* may effect detachment unaided, or scissors or scrapers may be used to divide any bands or connections.

In conclusion it may be stated that the question will be decided, like ovariotomy, by experience; but to acquire that experience justifiably, extreme caution, judgment, and conscientiousness, as well as surgical skill are required.

CHAPTER XXV.

POLYPUS UTERI.

DEFINITION; FORMS OF: FIBROID OR MYOMA; GLANDULAR OR MUCOUS; HYPERTROPHIC; VASCULAR; PLACENTAL; FIBRINOUS; HISTORY OF FIBROID; FIBRO-CYSTIC VARIETY; SYMPTOMS; TERMINATIONS; INTRA-UTERINE POLYPI; DIAGNOSIS; TREATMENT; SLOW STRANGULATION, DANGERS OF; TORSION, CRUSHING, AND EXCISION BY SCISSORS; REMOVAL BY POLYTOME, ÉCRASEUR, GALVANIC WIRE-CAUTERY.

Definition.—Under the name of polypus are included all tumors, stalked or sessile, which hang from the inner wall of the uterus or vagina. It is, however, convenient to exclude cancerous growths and the cauliflower excrescence. A polypus of the uterus may be defined as a uterine tumor in process of extrusion from the mucous surface. This chapter then is the clinical continuation or completement of the preceding chapter, which treats of non-malignant tumors of the uterus.

In the greater number of cases of clinical interest, a polypus is nothing more than a tumor in one of its ulterior stages. We have seen that the fibroid tumor is liable to be extruded from the wall of the uterus into the cavity. In this process of extrusion, a stage arrives when the tumor becomes first sessile, then pendunculated. When the main bulk of a tumor projects into the uterine cavity, its seat of attachment being narrower than its equator, the tumor has become a polypus. This definition, especially true of fibroid polypus, is generally true of the other forms. But Cruveilhier's distinction is useful. He divides polypi into —1. *Stalked.* 2. *Sessile.* In the stalked kind the polypus is nearly or quite distinct from the proper tissue of the uterus. The stalk consists mainly of the stretched mucous membrane, connective tissue, and perhaps a little muscular fibre. This is most frequently the case with the hard tumors. In the sessile polypus we are more likely to find a broad continuity of muscular tissue between tumor and uterine wall.