THE AMERICAN

JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

VOL. XXXI. MARCH, 1895. No. 3.

ORIGINAL COMMUNICATIONS.

VAGINAL HYSTERECTOMY AS DONE IN FRANCE.[1]

BY

EDGAR GARCEAU, M.D.,

Electro-Therapeutist to the Free Hospital for Women, Boston; Visiting Physician to Convalescent Home, St. Elizabeth's Hospital, Boston, Mass.

(With thirteen illustrations.)

IN 1886 Péan removed the uterus through the vagina from a patient who had undergone celiotomy at his hands four years previously. The primary operation was done for inflamed appendages and was unsuccessful in relieving pain. The hysterectomy was brilliant in its results. This incident led him to think that perhaps too much attention had been bestowed upon the appendages, and that the uterus might be quite as much responsible for pelvic pains as the ovaries and tubes. Reasoning that the uterus was diseased as well as the appendages, and frequently more so, though perhaps not appreciated as such, he came to the conclusion—certainly a logical one—that, in cases of pelvic in-

[1] Read before the Gynecological Section of the Massachusetts Medical Society, December 27th, 1894.

flammation involving the female organs of generation, not on
should the appendages be removed, but likewise the uterus
well. As his observations extended and his experience gr
larger, he found that even in those cases in which the ute
was removed and the appendages abandoned a cure result
which proved to be permanent in the vast majority of cases.
convincing argument in favor of the new method was that t
mortality was very much lower than that of celiotomy, *cete*
paribus. His first sixty cases all recovered; among them we
some severe types of pelvic inflammation with dense adhesio
matting the intestines together to such an extent that celioto
would have been dangerous had it been attempted.

The new operation met with great disfavor. For a while Pé
was alone in upholding his views. Ségond was the first co
vert. He saw Péan operate and cure a patient who had t
worst kind of pelvic inflammation. It was clearly a despers
case: the uterus was firmly embedded in dense adhesions; t
induration of the viscera extended almost up to the umbilic
To remove the appendages by celiotomy was not to be thoug
of. To remove the uterus vaginally under such conditio
seemed impossible. Péan demonstrated the feasibility of doi
this and cured the patient besides.

Gradually the operation gained a foothold, mainly throug
the able writings of Ségond, who defended it with extraordina
energy, until now even its bitterest opponents are forced to a
mit that vaginal hysterectomy has a place in surgery.

At the present time the question when to do vaginal hyst
rectomy and when to do celiotomy is far from settled. The
are some who do the vaginal operation in all cases of double s
pingitis, associated or not with purulent collections, and othe
who do it only when celiotomy is contraindicated; still othe
occupy a middle ground. As in all questions of this kind, th
future will decide.

The operation.—The instruments should be: three knive
with long handles, one straight, two curved on the flat wit
edges right and left respectively; five vaginal retractors of th
Péan model; two pairs of scissors, straight and curved, wit
blunt points; two three-toothed traction forceps; two bulle
traction forceps; a plentiful supply of hemostatic forceps havin
a bite of different lengths—a half-dozen of one and a quart
inches, a half-dozen of three inches, a few, curved on the flat, c

three inches, and about a dozen ordinary small ones; uterine sound; needles, etc., in case the bladder is opened; two hooks for everting the uterus; self-retaining catheter; reflux catheter; sponge holders; uterine curettes and dilators.

The Péan retractors require special mention. They are long, flat blades gently curved at the very end, mounted on strong aluminum handles. In the middle of the instument, at the junction of the blade and the handle, is a sharp angle which increases the efficiency of the instrument, for it makes it easier for the assistant to manage. Each blade is four and a half inches long and one and a quarter inches wide; the handles are of about the same length. Four of the retractors are of the same size and are used to separate the vaginal walls and expose the cervix. The fifth retractor is only seven-eighths of an inch wide, though of the same length; it is very useful to slip into a small *opening* in the peritoneum, and serves as a guide to a larger retractor.

The hooks may also be mentioned; they are eleven inches long and have each two hooks at their extremities, three-eighths of an inch apart. They are very useful at times in everting the fundus.

The self-retaining catheter is very ingenious. It is an ordinary flexible soft-rubber catheter, having opposite its eyelets two rubber shoulders projecting one-quarter of an inch from the shaft, one on each side. These prevent it from slipping out of the bladder unless considerable traction is made; if this is done the rubber shoulders straighten out and the catheter is removed. To introduce the instrument a long whalebone sound is passed into the canal of the catheter as far as its tip. By drawing the mouth of the catheter toward the free end of the sound its shoulders straighten out and it can be easily passed.

Preparation of the patient.—For eight days before the operation the patient has vaginal douches of corrosive sublimate 1 : 2000. The day before she is well purged, and this is followed by a rectal enema at least six hours before the operation; if this is not done, and the enema given just before operation, there may be great annoyance caused by the discharge of fluid which has not wholly escaped. It is unnecessary to comment on the details of cleansing and shaving; soap, brush, and corrosive are freely used, both externally and in the vagina. The urine is now drawn and the limits of the bladder determined by the finger in the vagina.

In these as well as in celiotomy cases the French surg
have their patients' lower limbs wrapped in cotton wool
bandaged; this remains on three days; it lessens shock.

The patient being on the back, the operator now examines
pelvic organs in order to determine what his line of action
be. In the majority of cases it is most convenient to operate
patient in the dorso-sacral position; it is easier for the assist
the patient remains stationary, her breathing is not interf
with, and fewer assistants are needed. When, however, o

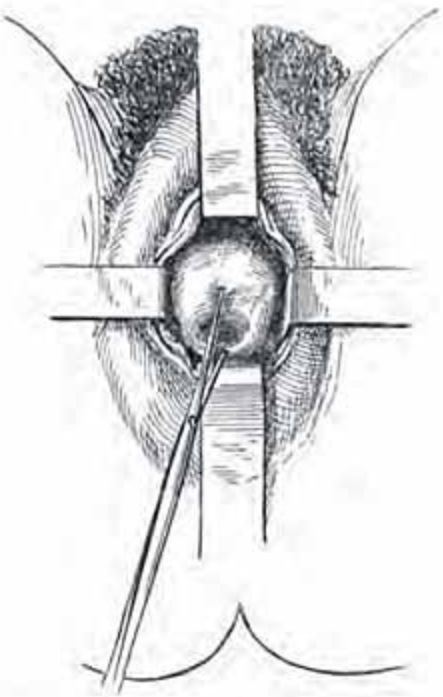


FIG. 1.—The retractors are in position and the bullet forceps draws down the cer

amination the uterus is found to be firmly adherent, surrou
by masses, and high up, the left-lateral position of Péan w
preferred, for more room will be gained. But this cann
said to be a hard-and-fast rule, for the majority of French
rators, except Péan, never under any circumstances use the
lateral position, believing that there is no uterus which cann
attacked to advantage in the dorso-sacral position. The
lateral is practically Sims' position, except that the left li
extended and the right one sharply flexed on the patient's

MPLE VAGINAL HYSTERECTOMY WITHOUT COMPLICATIONS, *the s being removed en masse.*—Most surgeons, particularly the ricans, prefer to use ligatures instead of forceps for control- hemorrhage. This method is certainly much more comfort- for the patient, but when it is necessary to do an operation kly it is perhaps better to employ forceps. The objections rceps are their alleged insecurity, the possibility of wound- the viscera, and the difficulty of maintaining asepsis. A ul operator will avoid all these mishaps. The advantages they are easily applied; they are easily removed; they rol hemorrhage perfectly; there is no subsequent fistula n suture); and, lastly, they shorten the operation. In the iptions which follow it will be assumed that forceps are

all cases in which endometritis is present it is well to dilate urette the uterus; some operators inject it with iodine after ting.

e operation begins by placing the four large retractors in ion, one on each side and one anteriorly and posteriorly. assistant on the left of the patient, the more important posi- manages the anterior and left-lateral retractors, while the assistant manages the other two.

e cervix is now seized with traction forceps and the uterus red as much as possible (Fig. 1).

gond's incision is infinitely the best, for by using it he has r clamped the ureter (four hundred cases). It is made with fe. He keeps somewhat close to the os externum anteriorly. eriorly, however, he allows the knife to cut a little further (about a third of an inch more). Having done this, he es two additional incisions, one on each side, parallel to the r border of the broad ligament; each is two-thirds of an long. The advantage is twofold: it gives more room and otects the ureter. The distance of the circular incision from os externum varies, of course, with the size of the cervix and attachments of the bladder. Care should be taken not to too far out for fear of wounding the bladder, nor too near os; in the latter case, the line of "cleavage" between the der and the uterus not being hit, the operation would be rious and slow.

irectly the incision is made the tip of the anterior retractor rced into the wound and pulled upward and backward along

the cervix (Fig. 2). The sectioned tissue yields a good
—surprisingly so, in fact—and it is just this maneuvre
makes the Péan instrument of so great value. While the ret
tor is pulling back the tissue the blunt-pointed curved scis
are used to separate the attachments between the bladder
the cervix; the concave curve of the scissors should point tow
the uterus. Now short snips are taken from left to right,
greatest care being taken to keep as close to the uterus as
sible in order to avoid the bladder. With each snip of

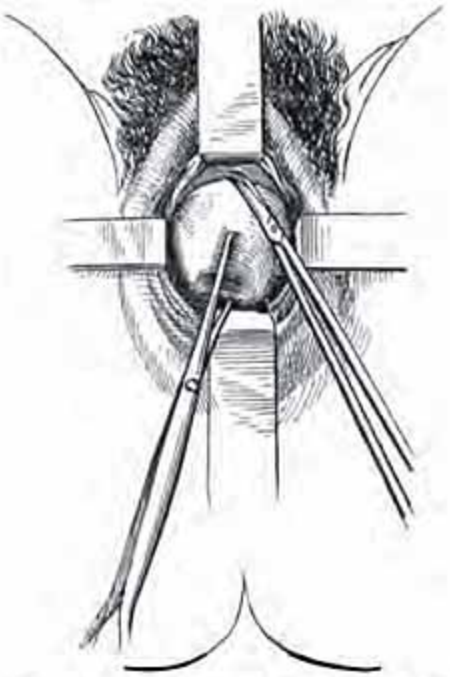


FIG. 2.—The Ségond incision has been made and a large part of the cervix denu
The anterior retractor pulls up the divided tissue, and the bullet forceps pulls down
uterus. The scissors are shown.

scissors the retractor takes a fresh hold, being introduced i
the part just cut by the scissors. It is truly astonishing
witness for the first time the wonderful help given by the ret
tors; without them morcellation would be impossible. Un
the attachments between the bladder and the uterus ext
high up, which is rare, the peritoneal cavity will soon be open
it may be recognized by its bluish coloration and smooth surf
The large anterior retractor is now discarded and the nar
one thrust into the opening made; the finger completes

ation. Some operators prefer to use the finger instead of cissors in separating the anterior attachments; this is not sary, for if the retractor is properly used there is no danger unding the bladder or ureters. However, when the peri- l cavity is being neared it is well to explore with the finger onally; if the tissues give at any one point, this point is bly nearest the peritoneal cavity.

ving opened anteriorly, the same process is performed pos- ly; here, however, the finger will prove of greater service the scissors. Sometimes it will be best to work in front and nd simultaneously. The hemorrhage up to this stage is nificant and may be disregarded.

erting the uterus.—Anterior method. Traction downward ld be made as much as possible by means of the forceps on the cervix. Now the long-handled hook is dug into the rior wall as high up as possible, and traction made; the ute- rields and begins to evert; the other hook is placed higher nd traction again made. By repeating this process the ute- uddenly pops out, sometimes unexpectedly.

osterior method. When the uterus is retroflexed, and also ses in which the anterior attachments are unusually high, posterior method is to be preferred. By using this method not necessary to complete the separation of the anterior chments. The finger introduced into the posterior cul-de-sac ores the back of the uterus. Using the finger as a guide, a of bullet forceps is introduced and seizes the uterus high up s posterior surface. The organ is now pulled down and out uch a way as to evert the fundus through the vulva. By movement the broad ligaments are twisted on themselves; r lower borders look up and in front, their upper borders n and behind. If the vesico-uterine attachments have not n separated entirely, this may be done now; the finger is ed up behind by the side of the uterus over the broad liga- t, and serves as a guide to complete the separation.

Hemostasis.—A hemostatic forceps is now placed on the left ad ligament from above downward (with relation to the pa- t), whether the posterior or the anterior method has been used. do this the index finger seeks the top of the broad ligament, guides the forceps, preventing it from seizing the intestines; en the tip of the forceps strikes the palm of the hand it is ked. The ligament is now cut close to the uterus, so as to

leave some tissue protruding from the forceps, for this mig slip if this were not done. The same is done on the oppos side and the uterus removed.

Sometimes there is a little oozing from the vaginal wound, well as from the prerectal tissue. It should be controlled clamping the peritoneal and the vaginal edges together w small forceps.

Dressing.—Drainage is not required; the forceps assure co plete drainage. The dressing consists of small tampons of gau well saturated with iodoform powder; each tampon has a stri attached to it so that it can easily be removed. Care should taken to place the tampons above the tips of the forceps, if t is possible, in order to prevent the intestines from lying on the thus producing pressure necrosis. Other tampons are plac between the forceps and the vaginal walls, while a strip of gau is placed between them and the vulva. The patient is cath terized again, and the dressing completed by covering t handles of the forceps with aseptic cotton; a bandage is th applied. The patient is put to bed and her knees flexed a supported by a cushion. Pain is controlled by subcutaneo injections of morphine. In forty-eight hours the forceps removed and the vulva and vagina douched. It is only af the sixth day that the upper tampons are removed; this is order to allow the peritoneal wound opportunity to contr down. Fresh tampons are at once replaced after douchi The dressing may now be done every day. In three weeks t patient is up and about.

Details.—Many surgeons employ a self-retaining cathet If the instrument is aseptic there is no danger of cystitis; it not, however, absolutely necessary to use one.

In incising the vagina the greatest care must be taken to ke close to the uterus, which serves as a guide. Experiments the cadaver have shown that by using Ségond's incision there less danger of wounding the ureter. If the simple circular in sion was made it was found that the ureter was one-half in (1.5 centimetres) from the uterus, whereas with Ségond's in sion the distance was increased to five-sixths of an inch (centimetres). The explanation is perhaps to be found in t greater freedom of motion downward accorded the uterus, t ureters at the same time slipping outward and upward.

fistula is made it is sewed at once; the natural contrac-
f the tissues will do much to close these fistulæ.

ing the eversion of the uterus a bullet-traction forceps
l pull down the cervix and prevent it from being carried
o the peritoneal cavity; the uterus is flexed on itself in
this.

he uterus cannot be everted, but can be lowered, the fol-
g maneuvres should be performed: The cul-de-sacs being
d, the index finger of the left hand is introduced into the
or opening in front of the uterus and seeks the top of the
oad ligament; then taking a long hemostatic forceps, one
introduced into the posterior opening and the other into
terior; before locking, the index finger explores behind and
aside intestines if they prolapse; this has already been
nteriorly. The ligament is clamped and cut and the ute-
livered. It is now a simple matter to clamp the right
ligament.

he uterus will not descend progressive clamping must be
The lower part of the ligament is seized with a forceps
g a bite of one and a quarter inches on each side; the
ent is cut up to the tip of the forceps, and the uterus, thus
ed, is lowered; progressive clamping is done until the or-
out. If the uterus will not descend, and the operator is
d to introduce his forceps directly into the pelvic cavity,
rceps must never be locked until the finger has explored
orly and posteriorly. Richelot passes his index and mid-
ngers into the anterior and posterior cul-de-sacs respec-
and guides his clamps in the most perfect manner. Care
l be taken that the forceps do not nip the vagina, rectum,
dder; sloughing would ensue (Mauclaire).

GINAL HYSTERECTOMY WHEN THE UTERUS IS ADHERENT *rectomy for pelvic suppuration*).—This operation is per-
the most difficult of any on the pelvic organs. Various
ients have been devised since Péan's first operation; they
he names of their originators, but the credit belongs en-
to Péan, for it was he who took the initiative, and his
tion to-day is applicable to all cases, even the most diffi-
The others are merely modifications, and they bear a
ng resemblance to the Péan operation. Quenu and Müller
ve the uterus by median section; Doyen removes it by
section of the anterior wall, and everts it by traction.

The best operation is perhaps a combination of the Péan a the Doyen. Briefly it may be described as having th stages: first, removal of the inferior segment of the uter second, removal by morcellation of the anterior wall of the u rus; and, third, eversion anteriorly of the stump. Probably one operates better than Richelot by this method. He opera as follows: The patient being on the back, the retractors introduced and the cervix seized (Fig. 1). The Ségond incis is now made and denudation effected of the cervix proper exac

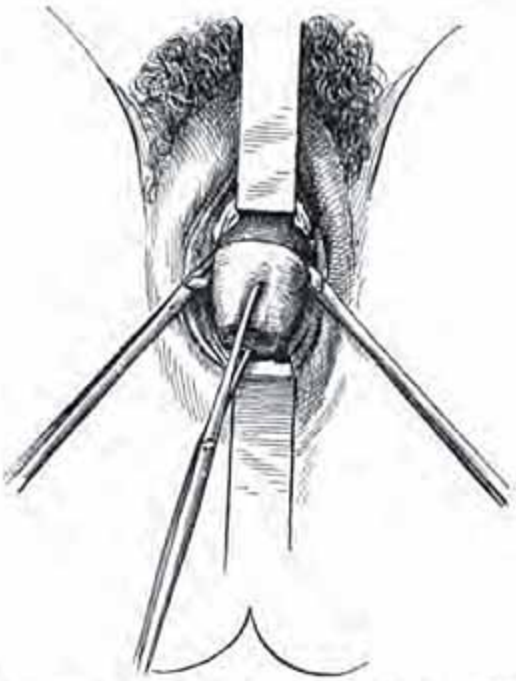


FIG. 8.—The lateral retractors have been removed and their places taken by the cla which have seized the uterine.

as described in the preceding operation (Fig. 2). As much the anterior and posterior attachments is freed as possib using the retractors to pull back the liberated tissue. The ger, as well as the scissors, should be used to separate the ad sions, which are frequently exceedingly dense, especially pos riorly; the finger will prove to be quite as serviceable as scissors, and some operators prefer it to the scissors. In m instances as much as an inch or more can be liberated anterio and posteriorly; every effort should be made to do this, beca the uterine artery is to be clamped, and to secure it the f

rceps should seize the broad ligament for at least an inch above
s lower border. The forefinger of the left hand is now placed
n the anterior surface of the cervix and glides along outward
ward the base of the broad ligament; it penetrates between
e anterior peritoneal fold and the ligament proper and pushes
ide the ureter, which is not far distant; the same is done be-
nd. Then two fingers grasp the broad ligament and serve as
ides to the first forceps, which seizes the ligament at least an

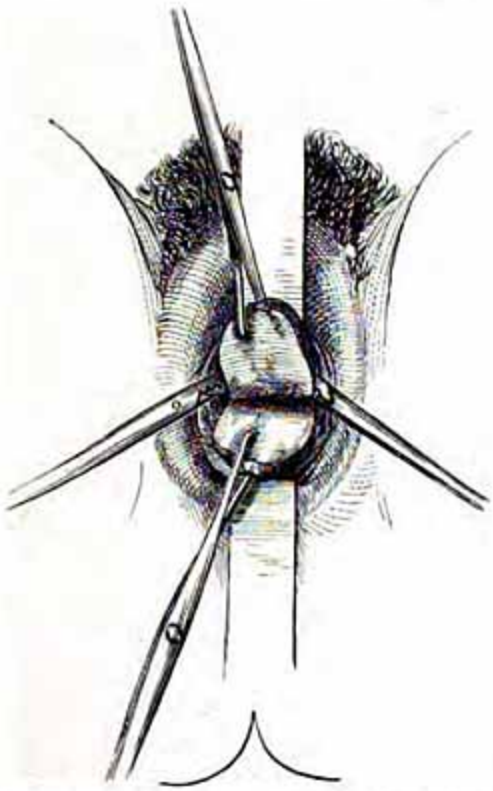


Fig. 4.—The cervix has been split transversely into two flaps, which are seized by bullet ceps. The uterine clamps are shown.

ch from its lower border and one-third of an inch from the
erus at the level of the external os (Fig. 3). The ligament is
ow cut the whole length of the forceps close to the uterus.
he same is done on the opposite side. The forceps now take
e place of the lateral retractors, which may be discarded, but
ey must be handled with care. As a matter of fact, the late-
l retractors have but little to do. The cervix is now split
ansversely from side to side, through and through, up to the

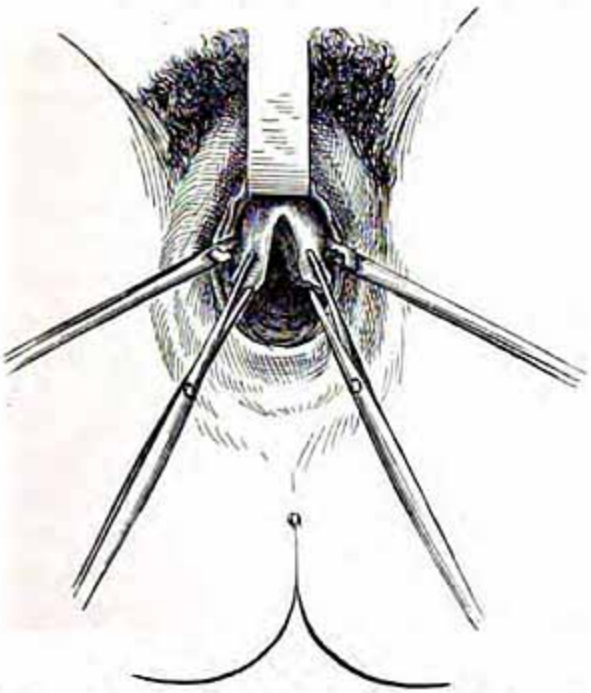
point of the forceps; two flaps are thus made, an ante
(pubic) and a posterior (rectal) (Fig. 4). The posterior flap is n
amputated obliquely from below upward, in order to remove
much as possible; strong forceps seize the anterior flap and
it downward; the uterus begins to roll anteriorly, thanks to
void which has been made behind; at the same time the scis
denude and separation is effected between the uterus and bl
der; the retractor holds the ground gained; some progres
made. The anterior flap is then amputated, but before cutt
it off entirely a bullet-traction forceps is fastened into the stu
above, because it might retract; there would be some difficu
in getting it again. If the uterus is not very adherent and
descend somewhat it may be possible to make two more fl
which are amputated in the same way after preliminary he
stasis of the broad ligament. But if the uterus is very adhe
the rest of the operation deals with the anterior wall of
organ. Placing a bullet forceps on each side of the canal,
stump is pulled down as much as possible and liberation effe
between the bladder and the uterus. After separating as m
as possible, the anterior uterine wall is morcellated in the
dian line in small pieces with scissors and knife in the man
shown in the diagrams (Fig. 7). The sections should be eit
vertical or oblique, according to the case—oblique if the ute
does not yield. The part removed should include all the tis
down to the uterine cavity. Two more bullet forceps are n
inserted on the upper parts of the edges of the excavati
renewed traction is made, more denudation effected, and m
cellation carried higher up. By repeating the process the p
toneal cavity is reached; at this point all embarrassment ces
for the bladder is definitely protected.

Central excavation or morcellation is a quick process. T
uterine cornua incline toward the median line; the fundus
scends in the form of a V, which allows of its being hoo
with the finger and pulled down and out. If there are ad
sions behind the uterus they may be separated under the
with the greatest ease. Having done this, a strong clamp sei
the upper part of each ligament down to the clamp which
been placed in position from below (Fig. 6), and the rest of
stump amputated. Should there be any difficulty about ev
ing the organ when once the peritoneal cavity has been reach

uterus is bisected antero-posteriorly in the median line and half clamped separately.

all these procedures there is little hemorrhage and it may disregarded.

Details.—Very rarely is it impossible to remove all of the us by this method. When there are numerous extensive ad-ons the operation is laborious and slow, requiring extraordi-y patience; the uterus is immovable and refuses to descend; hese cases it is necessary to proceed with care, for the tissue riable and is apt to tear. Sometimes the long knife will



. 5.—The cervix has been amputated. The uterine clamps are seen on the sides. e has been morcellated from the anterior uterine wall. Two bullet forceps should be as seizing the upper edges of the excavation. The two lower ones are not absolutely sary. This figure illustrates Ségond's morcellation.

ve of greater service than the scissors. Very seldom does the dus of the uterus have to be abandoned. The final result, vever, is said to be quite as good, provided the stump does offer an obstruction to the flow of the pus, if there should be

t is absolutely necessary to apply at least four forceps to the ad ligaments, one for each uterine and one for each ovarian. ne operators neglect this if these arteries do not bleed; it is

unsafe to do so, on account of the possibility of secondary he orrhage. Sometimes the adhesions may temporarily occlu these arteries and they bleed afterward.

Ségond's method of morcellation is worthy of description l cause it is so easy. It commends itself to one who has had lit experience with the operation. He calls it *central conoid ex vation* ("evidement conoide central"). Since he has used t method he has never had to leave the fundus behind. The e cavation begins after the cervix has been amputated, the u rines having been clamped. The next denuded portion is n removed in the following way: A curved knife cuts a cone, t base of which corresponds to the traction forceps below, t apex being in the anterior median line and up to the point denudation. Before completely detaching the cone, bullet-tra tion forceps are inserted into its upper edges; the cone is th removed (Fig. 5). Pulling down again, fresh denudation is e fected and a new cone removed. By repeating this process t fundus is reached. The point is to operate in the anterior m dian line. Little by little, thanks to the removal of the anteri uterine wall, thus removed by successive conoid morsels, t organ is everted (*bascule*) forward, dragging with it the sup rior border of the broad ligaments. At this moment only, t operator thinks about hemostasis. As a matter of fact, there but very little hemorrhage during anterior morcellation.

The secret of the operation is never to apply forceps befo seeing and feeling exactly where they are going and what th are going to clamp, and never to cut anything without bein sure of the ground. The large retractors give unhoped-for roo and, well managed, protect the tissue from injury.

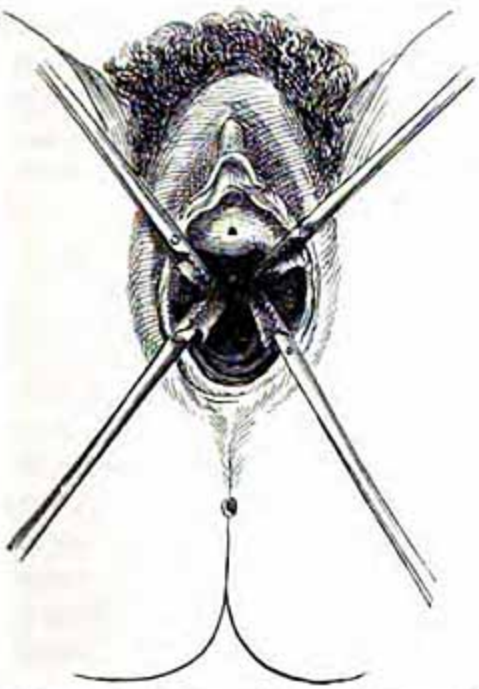
There should never be any hemorrhage. The operator shoul always see what he is doing. It is not a blind operation.

When it seems easier to do morcellation of the posterior wa of the uterus, as in retroversion, it should be done. The conoi excavation or Doyen's median section (to be described late should be employed, or simply Richelot's method of morcell tion.

The management of pus pockets.—The operation describe is applicable not only to cases in which there are no pus pocket —*i.e.*, to cases in which there are simply inflammatory adh sions—but likewise to cases in which there are one or more pu cavities around the uterus. If, during the operation of mor

tion, such a cavity is opened, the operator is not disturbed. waits until the flow of pus ceases, enlarges the opening his finger, washes out the cavity with the reflux catheter, proceeds exactly as though nothing had happened.

hese pockets are situated in the broad ligament, in the tubes, e ovaries, or in cavities formed by adhesions (encysted peri- is); in the latter case they may be in close connection the uterus. Large pockets need not be considered formid- ; Péan has done vaginal hysterectomy in a case in which



. 6.—Showing the clamps seizing the broad ligaments; two above and two below. erus has been removed.

abscess reached up to the umbilicus. When it is evident, re operation, that pus exists on one or both sides of the ute- it is well to proceed cautiously. It is possible in these cases the uterus is fairly movable, and there is a temptation to ove the organ entire; this should not be done, because in ing a long clamp on the broad ligament a pocket might be ed, and if this should happen the operation field would be ured. But in morcellation the operator sees exactly what eing done, step by step, and there is no embarrassment gond).

If the cavities have not been opened during the oper they may be searched for now after the removal of the ut Sometimes the tubes appear as large, congested coils filled pus. They should be incised methodically, in order not t the peritoneum. A mounted sponge or two are placed b and above the tube; these steady it and make it bulge int vagina, at the same time shutting off the serous cavity. T cut with the knife opens the tube and the contents flow the vagina, while a pair of forceps at the same time s the mouth of the incision and prevents the sac from re ing upward. The cavity is washed out with corrosive an tube sac now removed in so far as possible with the fin taking care not to tear the viscera.

If the pus has escaped during the operation, search shou made for the opening; it will usually be found under the rine cornu.

Sometimes all the pus sac is not enucleable. After ope one or two pockets it is found that the cul-de-sac of Doug entirely obliterated and the pelvic cavity divided into two back to back against each other, and so firmly adherent that impossible to remove them. They have been opened and contents drained. These are cases of double pyosalpinx an of the pus is in the tubes. Here simple drainage suffices pockets are washed out, and care is taken that there shall free exit. Their subsequent behavior is like that of an ab cavity anywhere else in the body; they contract and bec obliterated, thanks to the free drainage afforded by the ren of the uterus.

In some cases there are multiple abscesses on one or sides. The greatest care should be taken to search for them the finger and open and drain them; if left behind they cause further trouble. To be sure, it is possible, and quite p able, that they will open spontaneously in a day or two, b is not safe to count upon this event.

The treatment of adhesions and the appendages.—The ter may be summed up in a few words. When the append can be separated from the adhesions it is proper to ren them, otherwise they may remain behind. They will atro and give no further trouble. The inflammatory deposit di pears in an incredibly short space of time. The following which came under my personal observation illustrates

: M. J., 29, IIpara, was admitted to the Broca Hospital
's) August 12th, 1894. Ever since her last confinement,
years before, she had been suffering from inflammatory
trouble which had confined her to bed most of the time.
ongest period of quiescence was three months; the rest of
me she had been practically bedridden from pain and pros-
n. She had had four attacks of pelvi-peritonitis, which had
severe, the last one eight days before entering the hospital.
ination showed a uterus which was fixed, immovable, and
nded by inflammatory adhesions; on the right a mass the
f a good-sized fist filling the pelvis and impinging on the
n, on the left a smaller mass. Vaginal hysterectomy was
by Dr. Jayle, Pozzi's first assistant. No pus was found.
e was no shock to speak of, although the operation lasted
an hour. In three weeks the patient was completely well,
ing no pain, and walking about. I had examined the woman
e the operation and easily made out the large masses; when
mined her again, three weeks after the operation, I was
nded to find that on the left side almost nothing remained,
that on the right side there was only a mass the size of a
hen's egg. She told me that she was perfectly well, and
ooked so. And yet both ovaries and tubes were left behind!
hen, however, the appendages can be removed it is proper
move them. The contents of the pelvis, when inflamed,
be compared to an arch the keystone of which is the uterus;
being removed, it is in most instances easy to remove the
of the arch, for they can be undermined, as it were, and
ked from below. The forceps on the cornu of the uterus is
ed gently and the ovary and tube appear in the vaginal
t; care should be taken not to pull too hard. When the
y and tube appear the finger is passed in and explores; ad-
ons are separated and the appendages pulled into the vagina;
pedicle is clamped and they are excised. This is a simple
. Sometimes the tubo-ovarian mass is high up and strongly
erent; the finger scarcely touches it and traction on the cornu
cts nothing. The index and middle fingers are now passed in
explore; the tactile sense tells what is ovary, what intestine,
t omentum, and what tube wall; the line of "cleavage" is
ad and efforts made to free the mass. Things are very much
n a difficult celiotomy. There are cases in which the fingers
not suffice to pull down the ovaries; in these cases a fenes-

trated forceps is often useful to seize the organ and cause descend. Gentleness is requisite for success, and no harsh sures should be adopted. When persistent, careful efforts been made without avail, the appendages must be abandone Nature allowed to complete the cure (Richelot).

Dressing.—This is the same as in simple vaginal hysterec except that the pus pockets should be filled lightly with iodo gauze, which is removed with the tampons six days later. must be taken at this first dressing to place the fresh tamp high as possible in the vaginal vault, because if placed to the contraction of the wound might shut off the openings pus pockets and a secondary abscess result. Should suc occurrence happen it is easy to open the abscess per vagi The forceps are removed in forty-eight hours. It is extre rare that a hemorrhage occurs on their removal. If it sh happen the patient should be taken to the operating room placed in Sims' position. The tampons are removed, th tractors inserted, and the bleeding points seized with fo again (Richelot).

During the days following the operation it is wonderf witness the change in the patient. The temperature drop pulse becomes steady, the bladder and rectum regain their tions, and the patient makes rapid strides to recovery. peritoneum has not been handled except in the pelvic ca and that very little; the intestines have not been touc everything has been done in the vagina outside the perit cavity. There is really not more shock than after an oper for a bad perineal laceration.

After-treatment.—The patients take nothing by mouth for or five hours after the operation, then they may have champagne in teaspoonful doses; this and other stimulants only nourishment taken until the forceps are removed. vomiting ceases now and the patients may have milk and V water or cold bouillon. They may have nourishing food the third day.

An ice bag is to be placed on the lower abdomen immedi after the operation; it diminishes pain and may be allow remain four to six days. Severe pain is controlled by sub neous injections of morphine. On the third day a rectal i tion of glycerin one part and wine two parts is given (P a few hours after the removal of the forceps. On removin

r tampons on the sixth day no immediate vaginal injection
d be given; it is best to wait a few hours before doing so, to
violent colic which has sometimes been caused. Now the
nt may have a daily injection of carbolized water, one per
A strip of gauze may take the place of the tampons from
noment. In ten to fifteen days, in non-suppurative cases,
quid returns clear. The patients sit up in bed toward the
h day, and get up on the eighteenth or twenty-first day.
al relations should not be resumed until cicatrization is per-
it generally takes two months.

THER METHODS OF VAGINAL HYSTERECTOMY. *Péan's ori-
l method.*—The patient being in the left-lateral position (or
sacral), the retractors expose the cervix, which is seized
oulled down. The circular incision is made, the ligaments
ped and cut, and the two flaps, pubic and rectal, made and
ıtated, care being taken to fasten bullet forceps into both
before amputating them. Securing a good hold again,
dation is effected anteriorly and *posteriorly* for as great a
nce as possible. Two fresh pairs of hemostatic forceps now
o more of the ligaments above the first ones; the ligaments
ut, new flaps are made, and the process continued until the
us is removed. Each stage comprises four maneuvres: 1st,
ation of the anterior and posterior surfaces of the uterus;
ection of the broad ligaments; 3d, division into two flaps of
portion of the uterus liberated; 4th, excision of the two flaps
obtained. The whole organ is removed without losing a
of blood, and seeing exactly what is being done. The first
ciple of the operation is never to apply forceps, nor to cut
hing, without having seen the region on which the forceps
to be applied or the knife carried.

he solution of the operation is to be found in the retractors
in the division of the uterus into flaps. The retractors give
oped for room and, well managed, protect the tissues from
ry. The division into segments allows the uterus to descend,
n when it seems at first sight impossible for it to do so.

'his method is applicable to all cases, and has been employed
h success when other methods have failed. It is the parent
ration and has held its ground well.

'he rules already given in regard to the management of pus
the appendages apply to this method as well as to those
ıt to be described.

Doyen's method of hemisection and eversion, patient on back.—This process is applicable to cases in which the uter not too firmly adherent and can be somewhat lowered; als cases in which the uterus is not more than twice its normal It is particularly to be selected when the uterus is very m able.

The great advantage of the method is that preliminary h stasis of the broad ligaments is *unnecessary*. The ligaments not clamped until the uterus is everted through the vulva.

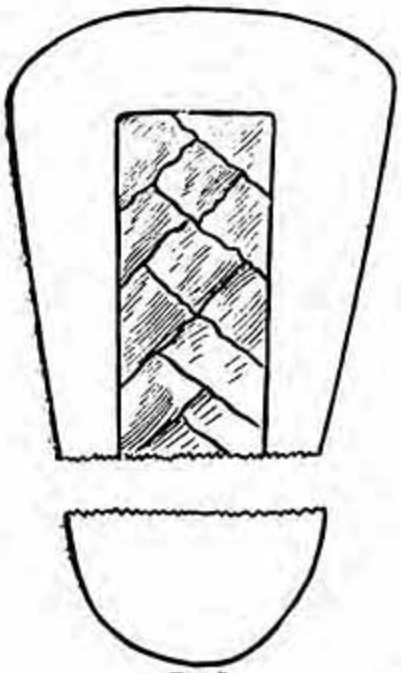


FIG. 7.

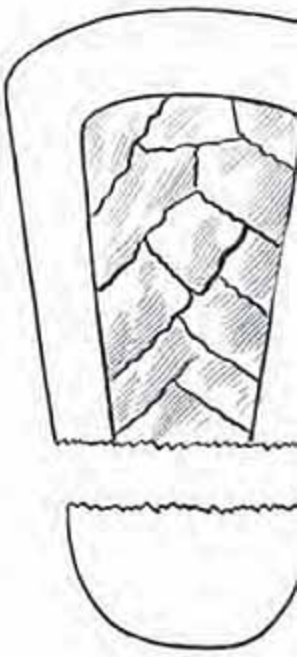


FIG. 8.

FIGS. 7 AND 8.—Diagrams showing the Richelot vertical or oblique morcellatio anterior uterine wall.

The anterior lip of the cervix is seized with two pai bullet-traction forceps, one on each side, to the right and they remain here until the end of the operation. The cir incision is made and as much denudation effected as possible scissors, retractor, and finger, both in front and behind. the anterior wall of the uterus is split in the median line bet the two pairs of bullet-traction forceps, with the straight sci up to the point where denudation ceases (Fig. 9). Two pairs of traction forceps seize the upper edges of the inc near the angle; traction downward is made, fresh denud

ted, and the median splitting carried higher up; two more
s of traction forceps are inserted as before and the process
inued until the uterus is everted. The anterior cul-de-sac
been opened during the operation of hemisection.

he central section is a very quick way of reaching the peri-
um. The cornua incline toward the median line; the fundus
ends in the form of a V and can be seized with the finger
pulled down. If necessary the median section is carried
the fundus to the posterior wall, splitting the uterus in two
es. Adhesions behind are easily attacked and separated.
appendages are separated and drawn out. If possible a
le large clamp seizes the broad ligament from above down-
d and external to the appendages, thus controlling the hemor-
ge (Fig. 11). Doyen applies a lighter forceps, just inside
large one, in order to be more sure; the uterus is then
utated. In cases in which the appendages cannot be lowered
ugh to be included in the large clamp, it is necessary to clamp
n higher up with another pair of forceps. When the uterus
etroverted the hemisection may equally well be performed
he posterior wall.

he advantages of the method are: first, preliminary hemo-
is of the broad ligament is unnecessary; second, the opera-
field is not obstructed by clamps; third, removal of the
endages is easier, there being no clamps in the way.

he median incision is not attended with much hemorrhage;
ay be disregarded.

The method of Müller and Quenu, patient on the back.—
e steps are the same up to the completion of the cervical de-
lation. The uterines are either ligated or clamped. The
ential feature of the operation is the splitting of the uterus
ero-posteriorly into two lateral halves progressively from be-
upward, denuding as the operation proceeds; otherwise it
es not differ from Doyen's, and, like his, it is applicable to
es of fairly movable uteri, or to cases of only moderate en-
gement of the organ.

The choice of methods.—As to the choice of methods, this
ust be left to the operator; what is simple for one is difficult
another. Personal equation must be considered. Everything
pends on the skill of the operator and his readiness to take
vantage of circumstances as he finds them. To formulate
ecial rules which would be applicable to special cases is impos-

sible. In general, Richelot's method, which is really a combin
tion of methods, will give the best results. I have never see
Ségond operate, but I believe that his central conoid excavatio
is a most excellent procedure, because it preserves the relation
the parts more perfectly, perhaps, than the vertical or obliq
excavation of Richelot.

There are three possibilities in vaginal hysterectomy: eith
the uterus descends easily, or descends with difficulty, or n
at all. In the first instance any method is applicable; perha

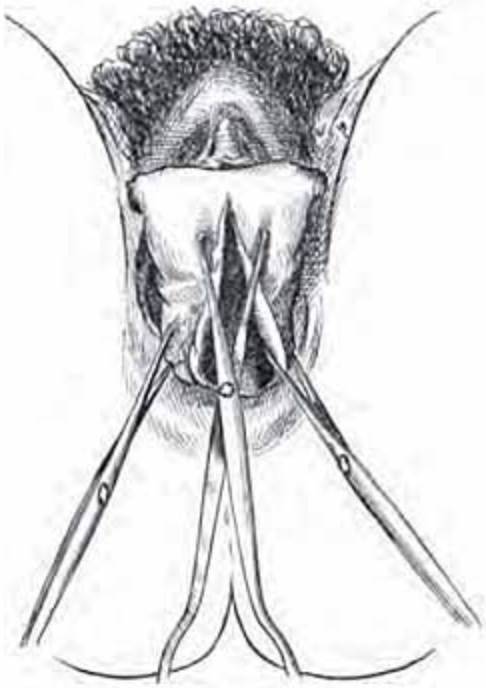


FIG. 9.—Doyen's method of hemisection. Preliminary hemostasis not required.
bullet forceps to the right and left below, and others above on the edges of the medi
section near the angle.

Doyen's hemisection is the best. A cautious surgeon will pe
haps prefer to clamp his uterines first. In the second instanc
the cervix is amputated first and the body removed next, eith
by anterior eversion after hemisection or conoid excavation
the anterior wall, or by posterior eversion after similar trea
ment of the posterior wall. If the uterus is absolutely immo
able there are but two methods, the flap method of Péan an
the central excavation. Sometimes a combination succeeds—*i.e.*
of the flaps and the central excavation. Here the operator take

ntage of circumstances; if the uterus cannot be everted, anterior and posterior walls are attacked by the Péan flap nod, and it is most exceptionally the case that the skilled ator is obliged to consider himself vanquished.

AGINAL HYSTERECTOMY WHEN THERE IS ENLARGEMENT OF UTERUS.—The operation may be divided into two heads, s in which the uterus is not more than twice its normal and cases in which the uterus is much larger. Richelot removed tumors which have weighed three and a half ds (thirteen hundred grammes). Péan removes all fibroids nally which do not extend above the umbilicus, or even er.

ses in which the uterus is not more than twice its normal —Here any of the preceding methods already described is cable, the choice being determined, to some extent, by the e of the tumor and the preference of the operator. Doyen ys employs his method of hemisection without special regard ape. If the tumor refuses to come down he morcellates in nterior median line by the oblique method (Fig. 10). He not clamp his uterines, relying on the downward traction to hemorrhage by compression; the hemorrhage is never con- able in any event.

e method of Müller and Quenu is also a good one. As the us is bisected the uterine cavity is touched with a solution hloride of zinc (1:10) as an antiseptic precaution. If the us is not adherent this method is perhaps as quick as any. operation is begun by preliminary hemostasis of the uterines amps or ligatures.

t the best of all is the method of Richelot. Again it is ly a combination of methods. Richelot seems to have taken best features of all the processes and to have combined them ch a way as to give the most satisfactory results. His skill onderful. He makes the circular incision, denudes the x, and endeavors at once to enter the posterior cul-de-sac, rally an easy matter in the absence of adhesions. In incis- he vagina he takes care to cut not far distant from the ex- al os, because the bladder frequently descends well down on cervix in fibroids. The anterior cul-de-sac will probably be ed later for the same reason. The uterines are now clamped, igaments cut, flaps made, the posterior one amputated, trac- forceps applied to the anterior one, and renewed efforts

made to enter the anterior cul-de-sac. Having entered this anterior flap is in turn amputated. Now the rest of the ligament is seized with a single clamp, which is guided in a way, by the index and middle fingers, as to avoid clamping intestines. The hemostasis being assured, the uterus is ren by morcellation in pieces of varying size, no special care taken about making flaps. The forceps used in morcellati fibroids are of a special type (Fig. 13). In the proce morcellation care should be taken to secure the stump o uterus with forceps before removing a morsel. The appen are removed in the usual way. But the operation doe

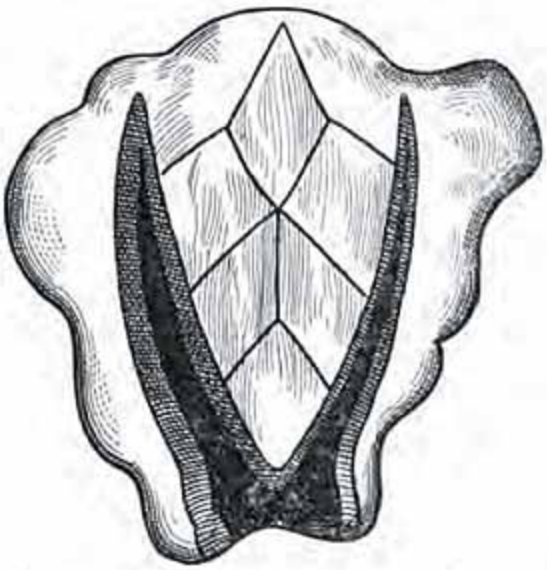


FIG. 10.—Oblique morcellation of the anterior uterine wall in a case of fibroi

always proceed as smoothly as this. Sometimes the uter fuses to descend and the ligaments cannot be clamped i In these cases, if the flap method of morcellation is atte (Péan's), it will be found that the stump gives a poor owing to the size of the uterus and its height in the pelvi is better to do median or oblique morcellation of the an wall; Ségond's central conoid excavation is particularly recommended. The uterines have been clamped and th no fear of hemorrhage. Having reached the fundus, the is everted anteriorly and the ligaments clamped from abov

Details.—The relations of the uterine arteries, whatev

volume and the position of the tumor, always remain the same with regard to the cervix; the same procedures are always to be followed in securing them. Sometimes there are dilated vessels, branches of the uterines, in the vicinity of the main artery; occasionally an extra pair of forceps will be required to secure these. Even if the cervix is partially effaced by the hypertrophy of one of its lips or hidden behind the symphysis, it

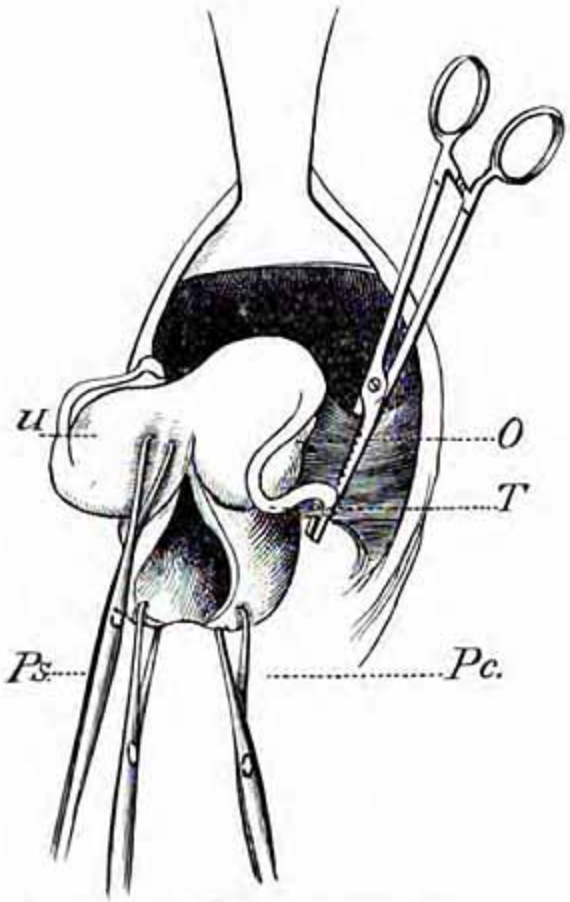


FIG. 11.—Doyen's method of hemisection. The uterus has been everted and a clamp seizes the broad ligament.

is generally possible to seize it and bring it down gently. Only once has Richelot had to attack the body of the uterus in the posterior fornix before making the circular incision; it was a large tumor. If suppuration of the appendages complicates the fibroid the operation is rendered more difficult. Here the rules already given apply.

Cases in which the uterus is of quite large size.—The operation begins as usual by clamping the uterines and cutting the ligaments up to the points of the forceps. The cervix is now split transversely and the mouth of the uterus laid wide open; uterine tissue in the way is removed by morcellation. The cervical flaps must be preserved, if possible, for they serve as traction points; if they cannot be saved they must be amputated and forceps put higher up. The anterior retractor often has a hard part to play, because the peritoneum is reflected higher

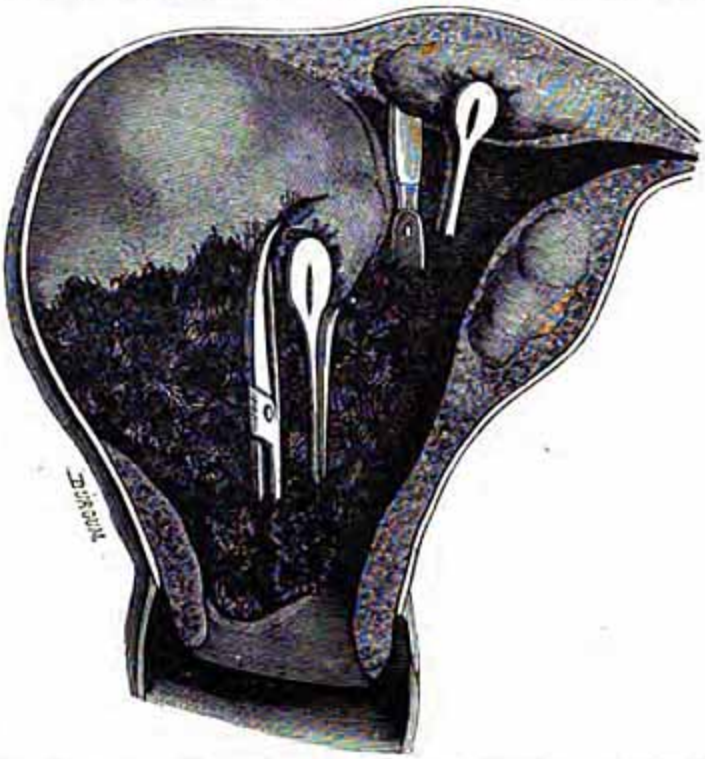


FIG. 12.—Morcellation of tumors of large size. The tumor is removed before attacking the uterus. Also illustrates the method of morcellating a simple submucous fibroid sparing the uterus.

than usual and is opened later; besides, the bulging of the fibroid in front may hinder its progress and even prevent it from entering deeply when the anterior cul-de-sac is opened. The object now is to empty the fibroid contents of the uterus by morcellation. Tumors of small size may be met with, which are gently enucleated, cut out with the knife or scissors, or simply torn out with the forceps or hooks (Fig. 12). Some uteri are literally crowded with these small fibroids. After some progress has been made, the uterus, already much diminished in size,

nay be seized right and left by its muscular walls (the flaps nave been amputated) while the operator attacks the main tumor; this is removed in the same way by morcellation, until finally the uterus is transformed into a flabby sac, which is in turn morcellated or which can be everted with ease. Should the tumor be very large it may be necessary to do progressive clamp-

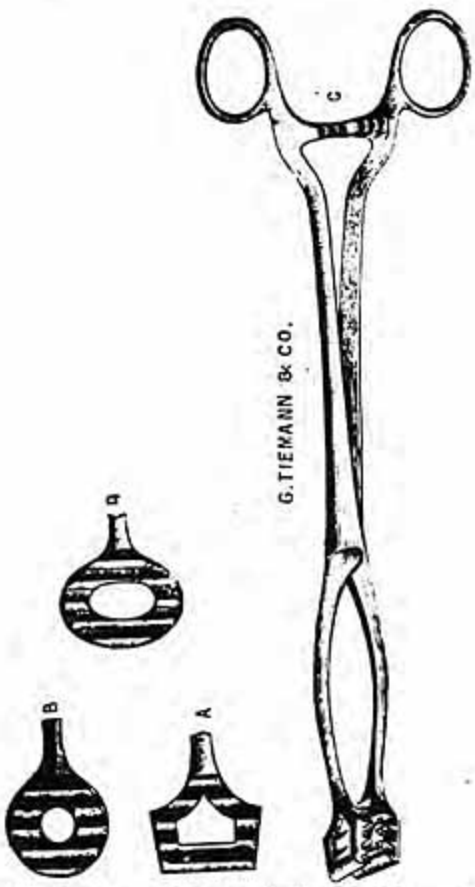


FIG. 13.—Traction forceps used in morcellating fibroid tumors of the uterus.

ng of the broad ligaments and remove the lower portions of he muscular walls, so that the upper parts of the tumor may e made accessible. Almost all the work, long and tedious, has een done outside the peritoneal cavity, which is opened at the nd. It will be seen that the object is, not to remove uterus and umor at the same time, but to morcellate the tumor before atacking the uterus. Sometimes the operation is exceedingly difficult, and profound conviction and great coolness are requisite

for success. The white, rounded tumor appears in the dep the wound. Traction is made on the cervical flaps to make tumor more accessible; but the anterior surface of the orgs arrested by the beak of the retractor, which cannot be dispe with as it prevents the anterior vaginal wall from falling ou forceps. Between the retractor, which elevates, and the forc which pull, there is a struggle, and if the edges of the ce or uterus are thin and friable the operator has a premoni that the forceps are about to slip. As quickly as possible a let forceps grasps the uterine tissue by a few fibres, and and seizes the tumor. If the assistants now make the slightest m ment to hold the retractor better, or if they "change their g at critical moments like these, the forceps are torn out and tumor disappears. The situation is worse. An assistant presses the tumor by pressure on the abdomen, and at the s time the operator introduces bullet forceps on his finger guide, which steers it among the coils of intestines. The tu is seized and drawn downward, care being taken not to the jaws of the forceps very wide for fear of wounding intestines. The whole difficulty comes from the fact that surface of the tumor, not having been cut into yet, cannc seized by a good bite of the traction forceps. It is well no make a small incision into the mass with a knife and to i duce another pair of bullet forceps on its edge. The inc is now enlarged and strong traction forceps applied. The rator is now master of the situation, and morcellation proc without difficulty. In every case it is possible to succeed patience. Finally the last fibroid mass makes its exit in a l frequently dragging with it the fundus of the uterus. S times, however, there is a second fibroid, and even a third these cases the operation is prolonged to an hour and a ha even two hours. The ureter has not been injured, even if displaced by the fibroid of the lower part of the uterus, bec morcellation proceeds from the *centre to the periphery* (R lot). In conclusion it may be said that Ségond attacks these large fibroids by his process of central conoid excavat

The most remarkable feature of the operation, which been long, is the little degree of shock attending it. The toneum has not been touched. The day after the patient h pain and is comfortable. She does not look like a person has undergone a severe operation the day before. (The des

f the operation for large fibroids has been copied almost for word from Richelot's book.')

ision of the vagina to gain room.—In certain cases when gina is small it is necessary to incise the perineum. On ternal surface the portion sectioned is represented by a hich begins about half an inch from the middle of the nette and extends down and out toward the ischium for an inch and a half. In the vagina the incision has the direction and is of the same length. The cut is best made ansfixion with a sharp-pointed knife, cutting from below rd. Hemorrhage is arrested at once. Generally enough will be gained by cutting one side only, but there are which may require bilateral section. The incisions are ed at the end of the operation. It may be said that the skilful operators never find it necessary to resort to cut- he perineum.

s results of vaginal hysterectomy performed for pelvic in- nation.—The statistics of Jacobs and Richelot are the lat- ublished. Both of these men are skilled operators, and results may be considered as fairly representing the merits e operation.

cobs' statistics include all cases up to the 1st of March, ; Richelot's, up to the 1st of January, 1894.

cobs has done hysterectomy for double inflammatory affec- of the appendages 166 times; he had 162 recoveries and aths, a mortality of 2.4 per cent. Analyzing these cases nd that in 113 there were double purulent collections, h were due to salpingitis, ovaritis, or encysted peritonitis; were 111 recoveries and 2 deaths, a mortality of 1.8 per The 2 deaths were due to cardiac complications. The der was perforated twice, the intestines once; the opening sutured immediately and no fistula resulted. In 98 of e recoveries the patient was followed for a period varying n 1 to 4 years; the others were lost sight of: 5 or 6 com- ned of vesical pain due to adhesions; 1 died from demen- months after the operation; 1 had an incurable intestino- nal fistula; 2 have had and now have severe pelvic pains, ch, however, are intermittent; 88 of these cases were ab- te cures. Analyzing the 43 cases of non-purulent inflam-

[1] "L'Hystérectomie vaginale contre le Cancer de l'Utérus et les Affections cancereuses." Paris, 1894. O. Doin, Éditeur.

matory troubles, we find that 1 died during the operation
nal case); 35 were absolute cures; there were some rebell
gastritis complications; the rest were lost sight of. In 10 c
of tumor complicated with bilateral inflammation of the ap
dages, 1 died from embolism soon after the operation; 7 v
followed for a year and were completely cured.

He gives his abdominal work by way of comparison. T
were 165 cases with 4 deaths, giving a percentage of 2.4,
same as by the vaginal method; yet it is to be remarked
in 56 of these cases the lesion was unilateral, and it is to be ta
into consideration that many of the cases operated on vagin
were desperate ones and inoperable by the abdominal route.
of these patients had inflammatory affections of the appenda

The distant results of his celiotomies are as follows:
of his 10 unilateral pyosalpinx cases there were 4 perma
cures; the remaining 6 had subsequent inflammation on the
posite side. The results in the cases of bilateral pyosalpinx
especially noteworthy: there were 3 deaths and 28 operat
recoveries; 25 were seen later; 17 of them had uterine or p
uterine affections which required curetting in 11 instances, v
or without amputation of the cervix; 4 of them had to hav
hysterectomy performed to relieve them of their pains; i
there was rebellious parametritis. Among the 44 cases of
purulent bilateral salpingitis many suffered from chronic
rine affections; vaginal hysterectomy was required once
many other cases some kind of local treatment was needed.
had 34 cases of bilateral ovaritis; many of these had some k
of local treatment subsequently. The unilateral affections
the ovary (46) in general did well. In many instances operat
for hernia following the celiotomy was required (number
given).

Richelot had 103 cases of strictly inflammatory diseases of
appendages, 61 of which were associated with pus; there w
7 deaths, a mortality of 6.7 per cent. Analyzing these cases
find that cures were obtained in almost all. In some there w
heat flashes and nervous symptoms of various kinds, which
appeared in a short while; a few had a tender vaginal cicat
but it was temporary. Richelot states, however, that in so
instances when the appendages are left *in situ* subsequent
flammation may be possible from the lighting up of the smou
ering fire. Sexual appetite was not diminished.

dau's work is remarkable. He regards celiotomy as the tion of choice, but in certain cases he thinks vaginal hyste- ny infinitely superior. He says: "There is a category of of suppurative disease of the pelvic cavity which are not able to the usual forms of treatment; in these celiotomy remely dangerous and puts the life of the patient in peril. e cases are those which are complicated with rupture of the into the bladder, rectum, or intestine; reference also is made ltiple abscesses which are intra- or extraperitoneal. In the best treatment is that inaugurated by Péan—vaginal rectomy *with removal* of the appendages." He has had 30 of this kind without a single death.

an's results are phenomenal. From the time of his first tion until December 31st, 1892 (later statistics not found), d done the operation 150 times with 1 death. He states 145 were completely cured. The patient who died was sted at the time of the operation and succumbed on ixth day; of the remaining 4, who died during the year ring the operation, death in 2 was caused by pulmonary sis, in 1 by cerebral hemorrhage, and in the remaining syphilis. Most of the cases were serious and of long ing; life was insupportable from suffering; almost all were nd wretched-looking. In two only were there post-opera- ymptoms referable to the bladder; they were finally cured. most all the disease was bilateral.

e following table shows at a glance the results of various tors:

	Cases.	Deaths.
Jacobs	166	4
Landau	80	0
Péan	150	1
Ségond	128	11
Routier	12	0
Terrier	59	7
Pozzi	14	0
Michaux	25	2
Richelot	103	7
Rouaffert	21	1
Dewandre	3	0
Sutton	5	0
Henrotin	8	1
	724	34

gives a mortality of 4.6 per cent. Considering the nature

of the disease—inflammation of the appendages—the mortal
is not high. In cases of pelvic suppuration Jacobs' results h
hardly been excelled by any celiotomist; it is questionable
they have been equalled. He had 113 cases of double purul
tubes with 2 deaths, a mortality of 1.8 per cent!

*The results of vaginal hysterectomy performed for fibroid
the uterus.*—The table is striking. The benignity of the met
is apparent when it is considered that the cases represent
first efforts of the individual operators in almost every instan
The low mortality is to be explained by the insignificant sho
The tumors were of all sizes, some reaching to the umbilic
Forceps were always used.

	Cases.	Deaths.
Mayer	1	0
Péan	200	4
Jacobs	22	2
Mangiagalli	8	0
De Ott	100	0
Carle	22	0
Calderini	1	0
Bockel	3	0
Routier	6	0
Richelot	43	1
	406	7

This gives a mortality of 1.7 per cent.

In Richelot's case of death the circumstance was due to
removing the upper tampons too soon. The woman had so
irritation of the stomach; he feared iodoform poisoning
removed the dressing on the fourth day; she died the next
of peritonitis. He always waits until the sixth day before
turbing the tampons.

*The claims of superiority of vaginal hysterectomy in case
inflammatory diseases of the appendages.*—In the first place,
statistics are favorable. They are, on the whole, better th
those of celiotomy. Jacobs' results are wonderful. Landa
Pozzi's, and Péan's speak for themselves. Landau's were
difficult, as well as Pozzi's. Celiotomy is always preferred
Pozzi when he thinks there is a chance for success. All his
cases recovered; they were desperate and inoperable by
abdominal route. As Jacobs says, the statistics of vaginal hy
rectomy are derived from desperate cases. To quote Jaco
"Let us now review the indications for vaginal hysterecto
beginning with the most difficult cases of suppuration c

ed with adhesions. There is pus in the dilated tubes, in varies, in the adjacent cellular tissue. The uterus is fixed he coils of intestines are glued together above these lesions solid roof. In such a case celiotomy displays the adhe- which cannot be separated without opening the bowels, a chance that we may reach the purulent focus limited by , open, empty, and drain it; and the result may be a slow ery or an intractable fistula. Often we are confronted similar condition in which the pelvis is occupied by adhe- in the middle of which the uterus is imprisoned, and yet ut the presence of purulent foci. In such cases, owing ar of accident, the surgeon is induced to relinquish the tion as an exploratory incision. It is of course always ble to finish the operation, but we have to consider the life r patient. In just these cases vaginal hysterectomy gives s little short of marvellous—not wholly without danger, rith a security far greater than the abdominal. The col- ns of pus are opened into the vagina without infecting eritoneal cavity; the adhesions are severed, if possible, should the finger encounter too great resistance they are doned, and in a few days they will soften and become ab- d. In pelvic suppuration and with extensive complicated sions, both equally formidable for the celiotomist, vaginal erectomy is triumphant."

e most wonderful result after these operations is the im- ate disappearance of the inflammatory masses. There is no t whatever about this. The explanation is probably to be d in the excellent drainage and in the removal of the cause. re is no reason why cicatrization should be any different that in any other part of the body. An almost analogous ition is to be found in appendicitis. Before operative ods were in vogue in treating this disease, its frequent re- ence was its most distressing feature. The appendix removed, patient got well.

he starting point of pelvic inflammatory disease is the uterus. ometritis is the first lesion. Pathological changes may onably be supposed to take place in the uterus. A paren- matous metritis enlarging the organ and giving rise to pain leucorrheal discharge, or a chronic interstitial metritis with ertrophy of the fibrous tissue, certainly demands as much ntion as a purulent ovaritis or salpingitis. To neglect the

uterus in such a condition is not logical. Once removed, e
the appendages are left behind, the reservoir of germs
longer present to cause reinfection. Whether or not leavi
hind the appendages, when they cannot be extracted, influ
the final result has not yet been definitely determined.
question is perhaps *sub judice*. Those who have had mo
perience with the operation say that only exceptionally is
any further trouble. At all events, there can be no fresh
tion. It is, however, rarely the case that they have to b
behind. One thing is certain, the immediate results are
excellent.

Another point greatly in favor of the operation is the ma
ment of pus. The drainage is perfect. The pus and secre
flow down a natural incline and the peritoneal cavity is no
taminated. In celiotomy the pus tubes frequently burst
the contents spread over the peritoneum. In case the p
foul and fetid, such as is met with after abortions and childb
the accident is alarming and gives the operator great uneas

In cases in which pelvic suppuration is complicated with r
vesical, or intestinal fistulæ, vaginal hysterectomy is the o
tion of choice. A celiotomy under such circumstances is fr
with danger. But by the vaginal method the peritoneum i
soiled, the discharges flow into the vagina, and the fistula c
of itself. The conditions are favorable for such a result
natural healing being aided by cicatricial contraction of the p
contents *en masse;* it is rare that a secondary operation is ne

The post-operatory shock of vaginal hysterectomy is infi
less than that of celiotomy. The reason is apparent. The i
tines have not been manipulated. Special emphasis mu
made on this point, for it is one of the strongest argumen
favor of the operation. The pelvic cavity seems to hav
greater tolerance for operative measures than the great s
cavity.

The cicatrix, which is often tender, to say nothing of he
is not a factor in the vaginal operation; nor does the pa
have to wear an abdominal support, so disagreeable to sens
women.

Vaginal hysterectomy removes the possibility of subseq
cancer of the uterus. Tubercle bacilli are found in twenty
cent of all cases of pus tubes; the inference is that they ma
present in the uterus.

e objections made against vaginal hysterectomy are: the
er of hemorrhage during the operation; the danger of
dary hemorrhage; the possibility of wounding the bladder
ureter and intestines; the difficulty of maintaining asepsis.
e same accidents may happen in celiotomy, probably not
ften. Statistics on celiotomy show this. As to the fre-
cy of clamping the ureter, it may be said that Ségond
00 consecutive cases never clamped it once. Ségond has
lost a patient from hemorrhage (up to 1893); he has
econdary hemorrhage five times, which was in every case
controlled—it happened on removing the forceps; he
ed the bladder three times—it was sutured and the patient
ered; he opened the rectum nine times—three times it was
ental, six times there was a pre-existing fistula: of these,
died several months after the operation from pulmonary
culosis; a third still had a small fistula, but it was a recent
the other six recovered spontaneously without interference,
ly a woman who had passed all the feces per vaginam be-
peration. Richelot in 219 cases opened the rectum twice,
ladder once. In the first case of opening the rectum the
a closed in a year—it was small and gave little trouble; in
econd the closure was accomplished in two years—it had
little trouble during the second year; in his bladder case
wound was sutured and the patient got well at once. He
ad one case of severe hemorrhage on removing the clamps;
atient recovered, but she came near dying. He has had
secondary hemorrhages which took place several days
removing the clamps; tamponing controlled it. Never,
Richelot, did the clamps become unclasped. As to the
tion of asepsis, with proper care it can be maintained.
on has taken pains to make examinations for bacteria in
dressings removed seventy-two hours after vaginal hysterec-
y. In his five cases no germs were found.

he greatest objection to the operation is the difficulty of
ing a correct diagnosis before operation in doubtful cases.
celiotomist who sees what he is doing has a great advantage
eeling as well as seeing. Péan, however, says that in such
s, which must in most instances be simple ones, it is easy to
n the posterior cul-de-sac and explore with the finger. In
re affections involving both sides it is seldom that the dia-
sis cannot be made beforehand. Another objection is the dif-

ficulty of performing the operation. This is certainly valid. difficult, and sometimes very difficult. A mere description ever well presented, gives but an imperfect idea of the which are absolutely requisite for success; a verbal descr is not much better. As Ségond says, "one must see the tion performed a number of times by a skilled operator wh done it many times himself, in order to learn it and be a do it afterward." It is unique in its way and cannot be pared with anything in surgery. The instruments, too, m suitable; the Péan retractors are almost a *sine qua non* of su

It has been said that removal of the uterus induces ne troubles. Ségond has never seen this result, and he follo his cases (400 up to November, 1894).

The indications for vaginal hysterectomy.—It is u that American surgeons who have not, perhaps, witnesse results of vaginal hysterectomy should be somewhat sce about it. But here it may be said that Péan's most bitter nents are to be found in France, and that they have been to admit that in selected cases it is the operation of choice. admission has not been brought about by theoretical reas but by actual results obtained in desperate cases. It is e understand opposition to vaginal hysterectomy. Abdo methods have been perfected to such an extent that celi to-day may be said to be at the very acme of perfection; place it by a method which at first sight seemed blin hazardous appeared out of reason. But the way to convi by logic and fact. Vaginal hysterectomy has come to stay

In Paris there are two camps, the hysterectomists an celiotomists; the former never do celiotomy if they can it, the latter never do vaginal hysterectomy under an cumstances. But there is likewise a middle camp, that unbiassed surgeon who is ready to accept an innovation pr it can be proved to merit recognition. To this Pozzi be His views appeared in *Annales de Gynécologie et d'Obste* 1893, page 504; they have not changed since then, for v hysterectomy was repeatedly done at his hospital last su

Pozzi does vaginal hysterectomy for the following cond

1. "Diffuse suppuration of a chronic nature involving tissues around the appendages and giving rise to such di that ablation of a limited pocket would seem to be of value or impracticable."

"Non-suppurative, very adherent, chronic conditions form- mass in the pelvis. In these instances the chronicity of ffection, as well as the exacerbations of pelvic peritonitis, d be considered. The surgeon should not diagnosticate cible adhesions without due reflection. It is perfectly pos- that an erroneous idea of the condition may be obtained examining the patient during an acute attack; here the a of the deeper tissues deceives the examiner."

"Continually discharging fistulæ of the abdominal wall or a succeeding celiotomy (with or without drainage), and ielding to curetting, to dilatation, nor to operation, with a of finding the suture which causes the fistula. This must e construed into an argument against celiotomy, for I have o open the abdomen to extirpate appendages in a suppura- state, complicated with fistula, after vaginal hysterectomy."

"Persistence of adnexial tumors which are painful, existing celiotomy. I have had to do the same thing after vaginal rectomy." Pichevin practically admits the same, but ad- as an additional reason,

Fistulæ opening into the rectum or bladder and communi- g with a pus cavity.

complete the list we might add :

Incurable disease of the uterus persisting after removal of ppendages by celiotomy.

e might even add to these conservative indications that of lau, which is,

Extensive disease of the uterus, such as parenchymatous itis, etc., complicated with double purulent salpingitis. He s on removing the appendages, however, even if he is ed to do a celiotomy at the same sitting to accomplish this t.

ese, then, are the indications which are recognized by the ervative surgeons. Perhaps it would be better to say by eons who prefer to do celiotomy when this method seems to any chance for success.

at there are many operators, and their number is rapidly asing, who think vaginal hysterectomy has a far wider range. ng them Richelot stands pre-eminent. His book, which has y appeared, contains a most excellent *résumé* of the indica- for vaginal hysterectomy. The whole subject is treated in sterly way, and there is an absence of theoretical discussion

which, added to the simplicity of the style, makes the book readable. All his cases (219) are given in full. He speaks profound conviction, and such is his eloquence that one pressed by what he says.

Richelot, Ségond, Péan, and others operate all cases by nal hysterectomy in which the bilaterality of the inflamm trouble can be demonstrated. This includes the lighter for salpingitis and ovaritis, provided operation is imperative. believe the results are better than in celiotomy. When, hov the bilaterality of the affection has not been demonstrated particularly if the patient is young, celiotomy is to be pref

Richelot operates complicated cases of retroversion b vaginal method. By complicated cases are meant those in the uterus is firmly bound down in Douglas' cul-de-sac and rise to severe metrorrhagia; in these conditions the ovari prolapsed and diseased. The symptoms calling for the ope are severe pains in the thighs and back, and a conditi nervous debility which makes the woman unfit for any He has operated 21 times under these circumstances, with plete cure in all cases.

The social condition of a patient has to be taken into con ation in deciding the question of radical operation. A w who has to work for a living, and who perhaps has been going so-called *treatments* at various hospitals and rec absolutely no benefit from them, will frequently accept an tion which will free her from the pains from which she ha fered months and months. On the other hand, a woma has nothing to do, and who can devote a proper amount of and care in following out a course of treatment which is int to be palliative only, may by so doing be made so comfo that it would be unwise to recommend any radical procedu

Richelot does not hesitate to do vaginal hysterectomy circumstances like the following: The woman belonged t working class; she was 42 years old and had had th children at term. Ten months before entering the hospit had a miscarriage. She was curetted one month after thi hap, and four months later Schröder's operation was perfo The hemorrhages continuing and becoming grave, vagina terectomy was done in November, 1893; three months lat was seen and was in perfect health.

In cases of pelvic neuralgia resisting all forms of treat

nal hysterectomy gives remarkable results. Richelot's de-tion of this disease is concise. He says: "The surgeon ld operate with extreme caution. The severe forms of pelvic algia are to be called manifestations of true hysteria with-painful localizations in the pelvis. There is pain, but there pathological lesion. The diagnosis is to be made as follows: l examination should be negative; the uterus should be nal in position, the cervix of normal size; the cul-de-sacs ld have preserved their normal suppleness and should not be or indurated; but there is, with rare periods of lull, an isite sensitiveness on touching the cervix and cul-de-sacs on moving the uterus while palpating bimanually; pressure he iliac fossæ is also painful, and sometimes the surface of abdomen can scarcely be touched even lightly without excit-exquisite pain. The patients suffer horribly; they walk bent ble; some have to stay in bed all the time. During an acute erbation all the symptoms of pelvic peritonitis may be ent, but on examination after the attack is over nothing rmal is found. The length of the disease may be from one irty years or more. These patients are miserable and go one gynecologist to another without receiving benefit. At hey become bedridden and they *die*." It has been said that le celiotomy without doing anything whatever will cure e cases, the cure being mental. Richelot cites a case in h he did this without the least effect; nothing was done simple exploratory incision. He has also met with cases in h the appendages were removed, there being slight lesions; ese, also, the neuralgic pain persisted after the operation. ow treats both conditions by vaginal hysterectomy with suc-

The following case happened in Richelot's practice: The an was 38 years old. She had had three children and had married twenty-one years. She had been ill twenty years. second confinement, seventeen years before, during which was taken care of by Budin, proved to be severe. She had eumatic history and often suffered pains in the arms and lders. Her children were all nervous and had neuralgias. had never had any hysterical attacks. Her stomach was ir-ble and she had to be careful about her food. For seventeen s she had attacks of severe pains in the pelvis; the accom-ying symptoms were excessive tympanites, nausea and vom-g, anorexia, constipation, and filiform pulse—in fact, all the

symptoms of pelvi-peritonitis. The last attack lasted
weeks. When seen by Richelot she was in a moribund
dition. His diagnosis was double pyosalpinx with perito
When the attack subsided, however, a movable uterus sli
anteverted was found, and small appendages which coul
easily felt; there was no induration whatever. She had
through an attack of pelvic neuralgia with a condition of
tonismus. Vaginal hysterectomy was done. The uterus
somewhat large, but the appendages normal. Seen five mo
later she reported herself perfectly well. Richelot has
sixteen similar cases, which were all cured with but on
ception.

In cases of prolapse of the uterus vaginal hysterecto
gaining many adherents, even though in many cases it prov
be a preliminary operation, a plastic one being required
sequently.

If a mistake in diagnosis has been made, and the operator
a hematosalpinx or a cystic ovary when he expected to
tubal inflammatory disease, no embarrassment need be occasi
for it is quite easy to treat these affections by the vaginal me
Hydrosalpinx and extrauterine pregnancy come under the
heading. Jacobs and Péan have reported many such cases.

Chronic endometritis deserves special mention. Referen
made to those cases which have resisted all forms of treatm
electrical and other. The patient suffers pain, constant le
rheal discharge, and is exhausted by repeated hemorrh
Curetting has been tried without avail. In such cases va
hysterectomy is justifiable. Sutton has done it for a suppur
endometritis. The uterus was infiltrated with pus, but the
pendages were not involved. The case was gonorrheal.
recovered. During the past nine weeks Sutton has done
operation twice in cases in which a celiotomy with remov
appendages was unsuccessful in curing the patient. He has
it in another instance in which there was general inflamm
of the uterus and appendages, and in still another in which
inflammation was complicated by cataleptic convulsions—all
success.

The operation has not been received with universal acc
tion in America, and will doubtless meet with much resistan
first. But Sutton, Thomas, Engelmann, Lusk, and Coe, as
as others, believe that it is a decided advance in gyneco

Mann, of Buffalo, believes that it is "the question of the day in gynecology, and its decision demands our best thought and our closest observation."

Illustrative cases.—Picqué:[1] A case of vaginal hysterectomy done for pelvic abscess with dense inflammatory adhesions filling the pelvis. The patient was 34 years old. She entered the Broca Hospital November 11th, 1891. Married at 19; eight *months* after marriage had a miscarriage, which was followed by *pelvic* pain in the region of the appendages. This subsided and for fourteen years she was well. Intrauterine instrumentation for sterility brought on chills and fever, and an abscess on the left side of the uterus which discharged into the vagina. She then had an extension of the inflammation on the right side. Vaginal examination showed a uterus which was impacted in the pelvic cavity and surrounded by inflammatory masses. Vaginal hysterectomy on November 19th, 1891. Twenty-five days later was discharged well. Seen January 20th, 1893, she reported herself perfectly well. The appendages were not removed.

Picqué:[2] Vaginal hysterectomy done subsequent to celiotomy; removal of the appendages did not cure the patient. The woman was 24 years old, and entered the Broca Hospital (Pozzi's) June 5th, 1891. She had gonorrhea at 16 and an abortion six years later. Pozzi examined her and found on either side of the uterus a mass, that on the left as large as a small hen's egg, on the right as large as a mandarin orange. On June 20th the appendages were removed by celiotomy. On the right there was a simple non-purulent inflammation; on the left there was a little pus. Discharged July 29th. Returned in November of the same year on account of profuse leucorrhea. Curetting done twice without result. Vaginal hysterectomy performed. Discharged well in December.

Terillon:[3] A case of vaginal hysterectomy done eight days after celiotomy, it not having been possible to complete the latter operation owing to dense adhesions. The patient was 23 years old and had been sick three years following abortion. The uterus was immobilized by adhesions which extended up to the umbilicus. A celiotomy was done, but no attempt was made to remove the appendages, as it seemed impossible to remove them. Eight days later vaginal hysterectomy was done and the

[1] Annales de Gynécologie et d'Obstetrique, 1893, p. 176.
[2] Id., p. 176. [3] Id., 1891, p. 881.

patient got well. She had no more pain. The lesions w tuberculous.

Dewandre:[1] A case of vaginal hysterectomy done for gene purulent inflammation involving uterus and appendages. T woman was 34. Married at 26 and pregnant eight times. L confinement April 20th, 1893. In 1891 had a child at ei months. Since then has been ill. The uterus is imprisoned immovably held between two masses. Vaginal hysterecto June 3d, 1894. Uterus, tubes, and ovaries removed; all pu lent; adhesions between tubes, omentum, and intestines separa with ease by the fingers. The cure was perfect.

23 HIGHLAND STREET.

No references have been given in this paper, because it was thought unn sary. The statistics have been gathered from the leading French me journals, notably *Annales de Gynécologie et d'Obstetrique.* The operation new one, and the references may be easily obtained from the "Index Medic The most prolific writers on the subject are Richelot, Ségond, Péan, Qu and Doyen.

VENTROFIXATION OF THE UTERUS.[2]

BY

C. B. PENROSE, M.D.,

Professor of Gynecology in the University of Pennsylvania.

I HAVE presented this very brief paper on ventrofixation suspension of the uterus, in order to learn the views of the lows of this Section on this method of treating uterine displ ments. During the past eighteen months I have performed operation of ventrofixation twenty-five times. The operat was done only on those cases where the sufferings of the wo seemed referable to the uterine displacement. The cases be divided into the following classes:

All cases of retrodisplacements with adhesions. Case retrodisplacements following parturition where repairing of perineum and the use of a pessary failed to cure withi

[1] Bulletin de la Société Belge, 1894, No. 5.

[2] Read before the Gynecological Section of the College of Physicia Philadelphia.