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ON THE MANAGEMENT OF TRUE AND FALSE CAPSULES IN OVARIOTOMY.

BY

ALBAN DORAN,

SURGEON TO THE SAMARITAN FREE HOSPITAL.

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AD's cases of uterus in front of cyst which was pedunculated & did not increase

Elena Keene
Gore

ON THE MANAGEMENT OF TRUE AND FALSE CAPSULES IN OVARIOTOMY.

By Alban Doran,

SURGEON TO THE SAMARITAN FREE HOSPITAL.

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(*Abstract.*)

The author distinguishes a false capsule formed of mesentery, omentum, or inflammatory deposit (Pawlik), a true anatomical capsule, which consists of the mesosalpinx alone, and a false anatomical capsule, where the lower part of the broad ligament, the parietal peritoneum, or the parametrium is involved. The management of the first variety is simply a question of breaking down adhesions. The treatment of the second and third is a less simple matter. The author discusses when a capsule should be cut away, when it should be let fall into the pelvis, and when it should be stitched to the lower end of the abdominal wound and drained. The first course should always be followed, if possible, when the capsule is healthy. The second is necessary when the base of the capsule is too broad to be made into a pedicle, or wherever for any other reasons no pedicle can be formed, the tissue of the capsule being healthy, and hæmorrhage under control. Fixation of the capsule and drainage is needed when hæmorrhage under similar conditions is hard to control, and in all cases where the capsule shows advanced inflammatory changes associated with suppuration of the tumour. In the latter condition oozing of serum increases the danger of septic infection. A case is related where there was free general oozing from the capsule of a large suppurating

cyst. The capsule was therefore fixed to the parietes, and plugged with sterilised iodoform gauze, which was removed on the third day. Thus hæmorrhage was stopped and sepsis averted. The author discusses the advantages and dangers of iodoform plugs. He also dwells on the prejudice of many surgeons against the practice of fixing the capsule to the wound. The danger of strangulation from a loop of intestine slipping beneath the capsule is theoretical.

Over a year ago I demonstrated, at a meeting of the West London Medico-Chirurgical Society, the nature of a capsule associated with an ovarian cyst. I showed that Pawlik* was right when he insisted that the word "capsule" meant at least two different pathological conditions. I read notes of six cases in my own practice† which proved the truth of Pawlik's theory. Finally, I laid stress on the importance of a thorough knowledge of capsules. I concluded by remarking that if the surgeon persists in doing ovariotomy without any pathological knowledge, he must not be surprised if he loses cases, and finds after death that he has torn up the peritoneum of Douglas's pouch, lacerated a ureter or large vein in the wall of the pelvis, mistaken intestine, adherent to and stretched on the cyst, for the tube stretched over a true capsule, or committed some other deplorable error.

The management of a false capsule which consists of inflammatory deposit, mesentery, or omentum, is hardly a subject of controversy. It is simply a question of breaking down adhesions. The importance of false capsules lies in their recognition, and not in their treatment. I am referring to the genuine inflammatory variety, which might be henceforth termed Pawlik's capsule, for the sake of brevity.

By a true capsule I mean the mesosalpinx, the lower part of the broad ligament being not opened up. But

* 'Ueber pseudo-intra-ligamentöse Eierstocksgeschwülste,' Vienna, 1891.

† "Capsules, False and Real, in Ovariotomy, with Notes of Six Cases,' 'Brit. Med. Journ.,' 1896, vol. i, p. 960.

the lower part may be opened up as well as, or without the mesosalpinx, and the parietal peritoneum or parametrium may be involved. In such a condition we have a false, but still an anatomical capsule. I described these complexities at length in the memoir already noted.

It is the management of anatomical capsules which deserves some consideration. All operators agree that the tumour must be shelled out of the capsule; but as to what should be done with the capsule all are not agreed. Should it be cut away? should it be let fall into the pelvis? or should it be stitched to the abdominal wound and drained?

I find that the first course should be done, if possible, when the capsule is healthy; the second if the first be not possible, yet the capsule healthy; whilst the third is always needed when the capsule shows advanced inflammatory changes associated with suppuration of the tumour.

When a simple broad-ligament cyst is enucleated from its true capsule,—that is, from the mesosalpinx—the capsule shrinks to small dimensions, and it can be transfixed close to the uterus, as in an ordinary ovarian pedicle, and tied and cut short. If the ovarian vessels be of any size, they should be tied separately. I know of a case where an experienced operator lost a patient through neglecting this precaution.

Many capsules, however, cannot be treated in this manner. The base may be of great breadth. After enucleation of the tumour, just before it is divided from the capsule, its vessels may be easily distinguished and secured; indeed, there is a kind of pedicle to the tumour inside the capsule consisting of these vessels and much connective tissue. Then the tumour is cut away. There is usually little fear of hæmorrhage from the capsule, and any bleeding points can be tied. But what is to be done when they are secured, and what must be done when there is deep oozing, hard to check?

It is under such conditions that the capsule is often suffered to fall down into the pelvic cavity. I admit

that, as a rule, this practice is good, and I follow it when it is clear that all vessels have been secured, and that oozing is checked. Even in an extreme instance,* where a large cyst had burrowed into the lower part of the broad ligament, leaving the mesosalpinx intact, I succeeded in stopping the oozing by pressure of sponges retained whilst the sutures were introduced into the abdominal wound. When the sponges were removed, the capsule was left to fall into the pelvis. In this, as in many simpler cases in my own practice, no bad effects followed the dropping of the capsule.

I deny, however, that it is always good surgery to let the capsule fall, even when its tissues are healthy. The bleeding is sometimes very hard to control. When it proceeds from the deeper part of the pelvis, it is customary to pass curved needles freely around bleeding points, which are tied by the ligatures introduced by the needles. This curved-needle ligature, as I may call it, the "Umstechung" of the Germans, is a valuable surgical contrivance under many conditions. But in this particular case, even in the Trendelenburg position, it is surgery in the dark, which is bad surgery. Large veins or even the ureter may be tied, and the parametric tissue, always best left alone, is unavoidably wounded. The wounds inflicted by the needles often increase the bleeding. Hence when there is free oozing from a capsule which cannot be trimmed away, it is always best to secure as many bleeding points as possible by means of the forceps and ligature. When the silk cannot be satisfactorily applied, a pressure forceps left on the point for a few minutes will almost assuredly effect the desired object. The general oozing can be checked, as a rule, by sponges.

There will always remain cases where the oozing from the interior of the capsule cannot be checked during the operation; I maintain that in such a case the capsule should be fixed to the lower angle of the wound and

* Loc. cit., Case 5.

drained, or packed for awhile with gauze, till the oozing is controlled.

Some surgeons have a great prejudice against this practice. Mr. Cripps,* in criticising in courteous terms my own advocacy of the procedure, writes:

"What is the object of thus draining the interior of the capsule? Surely, if the whole tumour has been shelled out from within it, and the operation conducted aseptically, everything is most favourable for the clean, raw, under surface of the capsule to lie flat on and unite with the fascia underneath. Thus there is no cavity at all, in the ordinary sense, left, and all that is to be feared is a little extravasation of blood. Is it for fear of this that the capsule is to be drawn up and stitched to the skin?"

Here I may observe that most surgeons agree with the above principles. But when a considerable extravasation of blood is to be feared, I hold that the stitching of the capsule to the skin is the safer course. Let us now consider Mr. Cripps's objections:

"If so," he writes, "why not pass the drainage-tube so that its end lies just within the edges of the capsule as they lie *in situ* behind the intestines in the pelvis?"

Mr. Cripps means—why draw up and stitch the capsule at all, why not rather let it drop, introducing the drainage-tube into the rent in its substance made for enucleation of the cyst?

The answer is that when, as he says, "all that is to be feared is a little extravasation of blood," the drainage-tube is superfluous. When much oozing is to be feared, I doubt if it could be carried out properly by the introduction of a tube into the rent in the collapsed cyst. Drainage would be far less easy than when the tube lies in Douglas's pouch. Free use of the tube in unfavourable mechanical conditions has brought drainage into discredit, so that Olshausen wrote early this year: "Like Baer, I am of opinion that drainage in abdominal surgery is a fond delu-

* "Abdominal Section for Ovariotomy," &c., 'St. Bartholomew's Hosp. Reps.,' vol. xxix, 1893, p. 13.

sion."* Assuredly it is worse than a delusion if ineffective. We know that, under certain conditions, drainage of Douglas's pouch is effective. I feel sure that drainage of a capsule fixed to the abdominal wound is thorough. But should we trust a drainage-tube introduced into a collapsed cyst which at the best must entangle a quantity of clot ?

We now come to Mr. Cripps's direct objection to fixation of the capsule. That distinguished surgeon writes :

" It is difficult to conceive any more unnatural position than the capsule drawn up in this way and stitched to the abdominal walls. I suppose after this procedure, if we could look inside, we should see the capsule thus treated looking like a soldier's tent, the apex of which is fixed to the abdominal walls. In this way an artificial cavity is produced in the capsule where none would naturally exist. Further, is there no risk in such a case of intestine subsequently finding its way between this attached portion and the pubes, with a liability to strangulation ? I know that in inguinal colotomy, where the bowel is fixed to the skin, death has resulted by a piece of bowel slipping and becoming strangulated between the attached bowel and the side of the abdomen."

Our author, as an authority on intestinal surgery, deserves respectful consideration, so the last sentence in particular must not be overlooked. In the case which he quotes, however, a piece of bowel fixed to the parietes of the groin served as a guide for bowel above it. A capsule brought well down towards the pubes, just upon the bladder, is not in a position to let intestine slip below it, and in a few days it becomes firmly adherent to the lowest limits of the peritoneum in that region. As for the cavity of which Mr. Cripps speaks, it is surely better to have a cavity artificially made by a drainage-tube or gauze packing, and under our control, than to leave a cavity to be formed " naturally " by hæmorrhage out of our

* " Die abdominalen Myom-Operationen," Veit's ' Handbuch der Gynäkologie,' vol. ii. p. 710.

control. The cavity which he seems to dread soon shrinks up.

In short, I must conclude that when a capsule oozes freely it is safest to fix it to the lowest angle of the wound and to drain (and pack, if necessary) its cavity. Sure control of the oozing, a source of sepsis if uncontrolled, is thus ensured—a practical aim. The dread of obstruction is nearer to the domain of theory; for, theoretically, a ligatured pedicle of an ordinary ovarian cyst is very liable to cause obstruction, yet obstruction is, after all, rare, and must be risked. Strange to say, I have known of obstruction where the raw surface of the pedicle had been sewn over to avoid that grave complication. So much for theory in abdominal surgery.

I have ever found that in the majority of healthy capsules oozing can be controlled before the end of the operation. Then the capsule can be dropped. But when bleeding cannot be controlled, fixation of the capsule is advisable. When, however, the tumour has suppurated, and the capsule is clearly diseased, fixation and drainage would seem to me to be imperative. Such capsules nearly always ooze badly, and the hæmorrhage adds to the peril of sepsis, and may even do direct harm, as the patients in these cases are always sickly and bear loss of blood badly. A case of this kind came under my care last spring.

E. F—, aged 36, single, a patient of Dr. Priest, of Waltham Abbey, was admitted into my wards in the Samaritan Hospital on May 10th, 1897. She had suffered in March, June, and September, 1896, from colic and vomiting, without evidence of obstruction. Dr. Priest rightly diagnosed peritonitis. Early in 1897 the abdomen began to swell, and a tumour was detected. Mr. Targett examined her in the out-patient department. On admission I made out an oval elastic mass in the lower part of the abdomen, reaching to the left hypochondrium and two inches above the umbilicus in the middle line, but its upper limits were much lower on the

right side. The tumour was moveable to a certain degree, and there was resonance in the flanks and epigastrium. The uterus was very bulky, and the fundus lay in the left groin. It was somewhat moveable, as is not rare in these cases; in fact, it slid on the capsule. The base of the tumour could be felt in the right fornix, displacing the uterus forwards, upwards, and to the left. The temperature was normal, the pulse 100, the appetite good, and the urine free from albumen.

On May 20th I operated, assisted by Mr. Targett. The incision exposed a strongly adherent cyst and a swollen structure, which proved to be the right tube much dilated. It looked like small intestine. In separating numerous adhesions some thick, soft, yellow masses escaped from the peritoneal cavity to the right and behind the cyst. Then I tapped the cyst with a Wells-Fitch small trocar. Several pints of thick pus escaped. I closed the aperture with a T-forceps, and enucleated the cyst from the right broad ligament, into which its base had burrowed. The tissue connecting the base with the capsule was tied with No. 4 silk. The capsule bled freely. There was a very free oozing, without any spouting arteries or distinct bleeding points. I stuffed the capsule with sponges, and on examining the left side found a large pyosalpinx, with a slightly enlarged ovary. I secured the ovarian vessels, transfixed and ligatured the pedicle, and removed the left appendages very completely. The sponges were then taken out of the capsule of the right cyst. I saw that the capsule could not be safely taken away; to let it fall into the pelvis was out of the question. I determined to fix it to the lower angle of the abdominal wound, and drain. I made a purse-string suture for the purpose, and introduced a glass tube; but much blood began to escape. I therefore packed in sponges again, preferring pressure to passing curved needles at random in the base of the capsule, as already explained. The peritoneum was then flushed with hot water. The sponges were afterwards removed from the

capsule. I packed the cavity very firmly with sterilised iodoform gauze, also applying pressure to the front of the wound, which was now closed. Not much blood was actually lost, as I promptly checked the hæmorrhage whenever it occurred in the course of the operation.

On the third day I removed the iodoform gauze, which was soaked with bloody serum. As oozing had ceased I did not pack again, but introduced a rubber tube into the cavity of the capsule. Here I must note that the packing caused no evil effect but one, namely, a very rapid pulse, due, I believe, to absorption of iodoform. Notwithstanding the severity of the operation the temperature only once reached 101°, and that was at the beginning of the first day after operation. There was no vomiting, abdominal tenderness, nor difficulty with flatus; yet on the second day the pulse ranged from 132 to 150. It fell at once when the gauze was removed, and on the fourth day stood at 90, which was slower than before operation.

I should like to hear the opinion of the Society on iodoform-gauze packing. I employed it on this occasion because I knew that there was, and would be, free oozing, which had to be checked, whilst the exposed surface was septic. Pressure was necessary for a long period in order to stop the oozing, so that the gauze would inevitably become charged very soon with a quantity of serum already septic. I therefore deemed it right to make use of a true antiseptic—iodoform—so that it might disinfect the fluid retained in the gauze.

A very rapid pulse when other symptoms are favourable is, according to my experience, a certain indication of poisoning by iodoform in any case where that compound has been freely used. Brettauer, of New York,* finds that there is also a rise of temperature; but wherever I have noted fever I have observed complications, such as retention of flatus, which have satisfactorily accounted for it.

No doubt, then, simple sterilised gauze is best when-

* See "Iodoform Poisoning," 'Brit. Med. Journ., 1897, vol. i, p. 932.

ever it is required to absorb a fluid which is not septic, especially when circumstances allow of frequent change. A capsule of the kind under consideration is best left alone for the first few days. But in this case an antiseptic was necessary and proved effectual, for after all it prevented septic infection, whilst the solitary evil symptom was alarming to the surgeon rather than serious to the patient. I have known of far graver effects following the routine use of opium in simple ovariotomy.

I will now conclude the relation of my case. After the removal of the gauze the patient made a good recovery. I washed out the cavity with various antiseptic solutions for three weeks, and did not let it close until convinced that it was no longer septic. On July 24th, two months after the operation, the patient was well and strong; the wound was quite healthy, and there was no trace of a fistula. When a cavity, like the capsule in this case, is allowed to close too soon, bad results may follow.

Thus, in this case, there was a thickened and diseased capsule which could not be cut away, whilst to let it fall into the pelvis would have been most unjustifiable. Drainage with the capsule in that position would have been ineffective. I was determined that not a drop of the blood which had oozed from the diseased surface should escape into the peritoneal cavity. The capsule was therefore fixed to the external wound as low as the reflection of the peritoneum from the bladder on to the parietes, so that it really adhered to the subperitoneal connective tissue in front of the bladder. Thus there could be no fear that a coil of intestine would slip under the capsule. The hæmorrhage was checked by the pressure of a material which also rendered the effused fluid antiseptic. When there was no more fear of bleeding, the pressure was removed and the cavity drained and washed out.

In conclusion, I trust that I have made clear when, in my opinion, a capsule should be cut away, when it should be let fall into the pelvis, and when it should be stitched to the abdominal wound and drained.