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Pelvic Abscess in the Female.

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PELVIC ABSCESS IN THE FEMALE.

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Pus forms in the veins and lymphatics of the pelvis most frequently in association with puerperal septicemia and pyemia. In connection with these minute pus-formations there are frequently deposits of pus on the free surface of the pelvic or general peritoneum; but these collections do not usually create a recognizable tumor. Though of the most serious import, they do not usually call for surgical interference.

Rarely there may develop around an inflamed vein or lymphatic of the pelvis a cellulitis or a peritonitis, with inflammatory deposit of such extent and character as to constitute a recognizable mass, and within such mass pus may form; or pus may develop within a pelvic vein or lymphatic as a condition secondary to a peritonitis, cellulitis, metritis, or endometritis.

Pus may form within an occluded Fallopian tube in such quantity as to produce a recognizable tumor, but to a pyosalpinx the term pelvic abscess is rarely applied. Inflammatory deposits and adhesions may have formed about a pyosalpinx, and the tube have become so encapsulated by inflammatory deposits as to furnish a resisting wall to the escape of pus even after the giving way of the tube-wall. Such is an occasional origin of a pelvic abscess.

An ovaritis also rarely eventuates in an abscess of the ovary. As with the tube, inflammatory deposits and adhesions about the ovary may limit the abscess after the disappearance of the thinned ovarian wall. An abscess of the



ovary is associated with enlargement of that organ. This enlargement, with the extra-ovarian deposits and adhesions, constitutes a tumor recognizable most readily through the rectum and vagina; adhesions and deposits about an ovarian abscess or a pyo-salpinx are in one sense conservative, as being protective to the general peritoneum.

Pus may originate primarily in a mass of inflammatory tissue resulting from pelvic peritonitis. The local peritonitis is probably, in most instances, an accession to a previously existing and possibly non-suppurating inflammation of an ovary, tube, vein, or lymphatic, or of the uterus. Pus thus forming may be placed posterior to the uterus and vagina, or behind one or other broad ligament, and probably extend across to the opposite side, or, after adhesion of various parts of the peritoneum and displacements of the viscera, the pus may appear first at some other point of the pelvic peritoneal cavity, as in the utero-vesical peritoneal pouch.

The tumor resulting from pelvic peritonitis, and in which pus forms, is much larger than the contained pus-mass. The abscess-walls are thick, and often make up in large part the tumor recognized by the examining hands. The walls consist largely of thickened peritoneum, inflammatory deposits, and pelvic and lower abdominal viscera, firmly matted together. The superior wall consists chiefly of exudated lymph and adherent coils of small intestine. The intestines may be adherent over every part of the superior wall or actually imbedded in it.

The general peritoneal cavity is thus quite securely cut off from the abscess cavity.

Pus may appear primarily within the pelvic areolar tissue, as a resultant of pelvic cellulitis. It may appear at various points of this areolar tissue; about the cervix, either laterally, posteriorly, or anteriorly between the cervix and bladder; in the loose and abundant areolar tissue of a broad ligament, either at the base or the upper portion, near the uterus, or at the pelvic end of the ligament. The most frequent site is in one or other broad ligament. An abscess in

the pelvic areolar tissue is external to the peritoneum and internal to the pelvic fascia—*i. e.*, between the two. The fascia forms a strong resisting wall, and the peritoneal wall usually becomes thickened and strengthened by associated local peritonitis. Yet pelvic areolar abscess may exist with no, or at most very slight, peritoneal inflammation. In the absence of peritonitis, the peritoneal wall of the abscess is, of course, very thin, and affords but slight protection to the epithelial surface of the peritoneum.

Pelvic abscess may have its origin in a suppurating hematocele, either within the pelvic peritoneum or external to it in the sub-peritoneal areolar tissue. The effused blood, after partial coagulation, becomes degenerated so that the fluid of a suppurating hematocele, in its early stages, presents an appearance due to the intermingling of disintegrated blood and pus. About such an abscess conservative cellulitis and peritonitis throw out a protective wall.

It is often difficult to determine the onset of suppuration within the pelvis. A previous inflammation of uterus, ovary, tube, peritoneum, areolar tissue, vein, or lymphatic, places the physician on the lookout for constitutional and local evidences of suppuration. Rigors, high temperature, profuse sweats, and rapid pulse are the usual accompaniments of suppuration here, as in deep-seated abscesses in other portions of the body. But it is probable that these symptoms in some patients occur without suppuration, and may then indicate merely extensions of the inflammatory process in patients of enfeebled and exaggerated nervous susceptibilities. The occasional very rapid convalescence of patients presenting such symptoms, along with the non-escape of pus through any surface, would seem to warrant such conclusion. Doubtless pus in small quantity may become absorbed under favorable conditions, but the rapidity of convalescence in cases alluded to seems to preclude the supposition of convalescence with absorption of pus.

There can be no possible doubt also that in another class of cases pus may form without the constitutional evidences

of suppuration. In fact, the inflammatory action preceding the suppuration may not present symptoms distinctive of inflammation, and patients with limited pelvic pus formations may present but slight subjective symptoms, such as pelvic discomfort, slight pain, moderate disturbance of the functions of the pelvic viscera, and very slight systemic perturbation. In all cases the local objective symptoms are of great value, and may alone warrant conviction as to the presence of pus.

Fluctuation—an important symptom, often a proof of suppuration in superficial abscess—may be entirely wanting in pelvic abscess, or may not appear until late, when pus has formed in such quantity as to rise above the pelvic brim, or to have approached a mucous or a cutaneous surface. If pus forms early about the upper vagina or rectum, in Douglas's pouch, or in the areolar tissue about the cervix, fluctuation can be readily obtained by the combined recto-vaginal palpation—*i. e.*, with one finger in the rectum and another in the vagina. When the pus has risen above the pelvic brim, fluctuation may be obtained before pointing occurs, especially if the abscess is in the extra-peritoneal areolar tissue. When pus is in the true pelvis, a bogginess of the upper vagina and loose tissue surrounding it is usually present; but this symptom may exist prior to suppuration. When present, it is important collateral evidence. An edema of the mucous membrane of the cervix and upper vagina probably exists with great frequency in pelvic suppuration. If an ocular inspection is made through the speculum, the mucous membrane, especially that of the cervix, will present, by reason of the edema, a strikingly glistening, semi-translucent, swollen appearance of a somewhat purplish hue. I have observed this as a very marked condition. It is a valuable symptom, and is analogous to the superficial edema seen overlying deep-seated abscesses of other localities. It is stated that the labium of the side on which the abscess is located may also present this edema, but I have not met with such a case.

A somewhat dense mass—firmly fixed in the pelvis, of

irregular, lobulated shape, painful on pressure, with displaced, immobile, and functionally disturbed uterus and appendages, with disturbance of the functions of the bladder and rectum, with usually the necessity of observing the recumbent posture with flexed thighs, with bogginess and edema of cervix and vagina and surrounding tissue, with or without fluctuation, usually with, rarely without, rigors, high temperature, profuse sweats, and rapid, feeble pulse—war-rants either an absolute diagnosis of pelvic abscess, or a working faith that such condition exists.

The presence of pus may be ascertained by a resort to the aspirator or to the hypodermic syringe. Of course, pus withdrawn is a final proof; but, if pus is not obtained, its non-existence has not been demonstrated. Pus may be present in small quantity in a single cavity or in several isolated minute cavities, and the needle may merely enter the tissue of the thick abscess-wall and furnish no evidence as to the presence or the absence of pus. The escape of pus from one of the outlets—vagina, bladder, or rectum, or through a cutaneous surface—may, as it were, clinch the diagnosis. Yet such an occurrence may mislead, for the pus may come from an abscess placed external to the pelvis—*i. e.*, external to the pelvic bony walls or below the pelvic diaphragm. I have seen an ischio-rectal abscess form after a laparotomy performed by myself. Its appearance awakened an apprehension that intra-pelvic suppuration had occurred, but an incision by the side of the rectum, and the subsequent history of the case, demonstrated that the abscess had no intra-pelvic communication.

Between a chronic pelvic abscess and a suppurating cyst the previous history of the case will furnish usually the differential diagnosis. I removed in 1877, with recovery of the patient, a suppurating ovarian cyst about the size of an adult head. Rigors, high temperature, profuse sweats, rapid, feeble pulse, and intense pain, "like coals of fire," indicated suppuration, but the previous history was that of a cyst. Moreover, a cyst very rarely becomes fixed in the pelvis, as

does an abscess. If the abscess is intra-peritoneal in origin, it generally presents a more irregular outline than does a cyst.

The study of the behavior of intra-pelvic abscess is one of great importance and of great interest. Unless the patient previously dies from septicemia and exhaustion, there is every probability that the pus will find within a few days, it may be a few weeks, an escape from the pelvis. The direction taken by the pus depends largely upon certain normal anatomical facts, but not altogether, for the formation of adhesions, the deposition of resisting lymph masses, the thickening of the peritoneum, the displacement and fixation of viscera, all contribute in greatly altering the normal anatomy of the pelvic cavity. The pelvic peritoneal cavity becomes shut off in many cases from the abdominal peritoneal cavity by a somewhat firm wall of abnormal formation. Nature makes great and frequently successful effort to protect the most important structures from the contact of pus.

Pus, making its way externally, usually does so by penetrating the rectum, vagina, or bladder, or through a cutaneous surface. In doing so, the pelvic fascia exercises to a very great degree a controlling influence. The form of abscess we are studying is within the pelvic fascia, whether external or internal to the peritoneum. The dense character of this fascia resists the penetration of pus. In the great majority of cases pus makes its escape from the pelvis, not by making its way through the body of that fascia, but by effecting an opening into most frequently the rectum, vagina, or bladder, above the attachment of the pelvic fascia to them; or, if the pus reaches a cutaneous surface, it usually does so by passing through one or more of the holes normally existing in the pelvic, or its continuation, the transversalis fascia, namely, the femoral, inguinal, or obturator canal, and the sciatic notches. It is at such points, then, that pointing and fistulous openings may be looked for.

Authorities seem to agree that the rectum and vagina are the two most frequent points for the escape of pus; but as to which of these two is the most frequent they differ.

My personal observations are not sufficiently numerous to warrant an opinion based on clinical experience. Reasoning from anatomical and other considerations, I should expect the most frequent site to be the rectum, about where the peritoneum is reflected from it. Its walls are thinner and weaker than those of the vagina. Pus gravitates toward the rectum rather than toward the vagina, because of the usual posterior recumbency of the patient. Hardened masses of feces pass along the rectum. These facts would seem likely to determine a more frequent attenuation and perforation of the rectal wall.

An opening into the bladder occurs, fortunately, with less frequency than into either rectum or vagina. Yet it is not of rare occurrence.

The pus of an abscess located in almost any part of the pelvis may find its way, because of adhesions and lymph deposits, into the rectum, bladder, uterus, vagina; or even to a cutaneous surface, by passing through one of the foramina in the fascia, or by perforating the abdominal wall above the brim.

An intra-peritoneal abscess is most apt to open into the rectum or vagina. An areolar abscess situated adjacent to the cervix is apt to take the same direction. An abscess originating in the outer portion of the broad ligament passes with great facility into the iliac fossa, and up the lateral and posterior abdominal wall. In diffused abscess this extension occurs with great rapidity. The subperitoneal tissue of the pelvis and lower abdomen is abundant, and is easily distended. The peritoneum is pushed away from the fascia with great ease by the advancing pus, and a tumor of large size is formed. In such an abscess pus may approach the surface through the crural or the inguinal opening, or directly through the abdominal wall. If an early egress is not found through one of the openings in the fascia, the pus may rise high in the abdomen before pointing occurs. The subperitoneal areolar tissue of the upper abdomen is less abundant and less distensible than in the lower abdomen, and the pus

meets there with greater resistance to its diffusion. After rising to the brim of the pelvis, the pus, if extra-peritoneal, is directed backward and upward, in part because of the posterior recumbency of the patient, but also because the sub-peritoneal areolar tissue is more abundant and more lax posteriorly than anteriorly in the abdominal region.

General peritonitis arising from pelvic abscess is of very rare occurrence, because of the conservative action of adhesions and depositions of lymph. Pus in certain localities in the pelvis is more liable to escape into the peritoneal cavity, and to thus occasion general peritonitis, than when differently located. An ovarian abscess for this reason is fraught with more danger to the patient than is an abscess due to pelvic peritonitis or cellulitis. Abscesses within the ovary do not become very large before rupture occurs, and there seems less probability of a protective wall being formed, so that, when bursting of the abscess eventuates, pus reaches the epithelial peritoneal surface, and a fatal result most probably occurs. In June, 1877, I lost a patient at the Philadelphia Hospital four weeks after a successful perineorrhaphy. The patient died of general peritonitis of three days' duration. An autopsy showed the cavity of an abscess in the right ovary large enough to have held about a half-ounce of pus. A small opening had formed in the thinned ovarian wall, and pus had reached the epithelial peritoneal surface. A chronic ovaritis had been rendered acute; suppuration had rapidly occurred without sufficient extra-ovarian deposit or adhesion to protect the peritoneum. A like danger attends pus in a tube, especially if the salpingitis has been due to the extension of a gonorrheal inflammation.

It is stated by writers that pus, forming a fistulous opening at the umbilicus, probably comes from an intra-peritoneal abscess originating in the pelvis. This may be true, but pus escaping from the umbilicus has, in some instances, a different origin. I have seen a suppurating ovarian cyst discharge at the umbilicus, and the following case shows that an extra-peritoneal abscess may also discharge at the umbilicus. It

also presents other points of clinical interest: In 1883 there came under my care, at the Philadelphia Hospital, a patient who presented an irregular mass in the pelvis and lower abdomen, and a fistulous opening at the umbilicus, from which pus had been escaping for several months, sometimes in large quantity. A history of a tumor, antedating the symptoms of inflammation and suppuration, could not be obtained. I made an incision in the median line below the umbilicus, and came upon the cavity of a chronic abscess in the subperitoneal areolar tissue. I laid open the sinus up to the umbilicus, and extended the incision above the umbilicus in order to reach the peritoneal cavity, and, by so doing, to determine the character of the tumor and the propriety of its removal. There existed a large fibroma of the uterus, adherent to the anterior abdominal wall as high as the umbilicus, and with extensive adhesions to the intestines and to the viscera and walls of the pelvis. The ovaries could not be found. A tube was introduced into the peritoneal cavity at the umbilicus, and antiseptic drainage was secured. The patient, after a tardy convalescence, recovered, with entire disappearance of the abscess. Her occupation had been that of an ironer, and the subperitoneal abscess of the lower anterior abdominal wall had arisen probably because of contusions resulting from the large and resisting abdomen coming frequently in contact with the ironing-table.

In 1873, being then an interne at the Philadelphia Hospital, I saw a patient with a chronic fistulous opening at the umbilicus discharging pus. This patient spent several months in three hospitals, in each being thought to have a suppurating peritonitis. No surgical interference was attempted. Death resulted from exhaustion. An autopsy showed a suppurating ovarian cyst—one that could have been removed with probable recovery. To-day the staffs of those hospitals would perform a laparotomy under such circumstances. It is not safe to conclude that the condition is that of intraperitoneal abscess because pus has extended upward apparently from the pelvis, and has secured egress at the umbili-

cus. Pus, existing in that extensive "atmosphere" of areolar tissue underlying the peritoneum, is at liberty to travel in that tissue in almost any direction, according to the action of gravity and according to the lines of least resistance, these being determined to some extent by the relative amounts of this tissue at different points, by resisting lymph-deposits, and at times by the pressure of associated uterine or ovarian tumors.

Pelvic abscess may eventuate in the formation of fistulous openings at different points in the same patient—into the rectum and vagina, into the vagina and bladder, into either or all of these outlets, and, at the same time, through the integument, as, for instance, in the iliac region. In a case seen in the Jefferson College Hospital in 1880, there existed openings into the vagina, bladder, and small intestine. In rare cases, openings form into the colon, the uterine cavity, by the side of the rectum, or of the vagina, and in other directions.

The pus may reach the exterior of the body by a direct opening, but in many cases of spontaneous opening the canal of escape is a long and tortuous one, effecting but partial and interrupted drainage. In the latter case retained pus becomes septic in character, leads to hectic and septicemia, and occasions an irritation or inflammation of the vagina, bladder, or rectum.

Though bursting into the peritoneal cavity is of rare occurrence, yet the probability of the formation of tortuous and chronic fistulæ, productive of grave constitutional and local disturbance, renders in many cases the spontaneous opening of pelvic abscess fraught with doubtful or unfavorable prognosis unless skilled surgical interference is brought to bear on the fistulæ and the abscess cavity.

In a few cases the abscess remains latent, it may be, for a long period. The contained pus remains for a time unchanged; but Dr. Byford has shown that, in certain cases, interesting changes occur in the contained fluid: gradually the purulent character becomes lost, and the characteristics

of a serous fluid obtain; the thick walls become thinned through absorption of inflammatory deposits; the abscess becomes converted into a serous cyst. The free surface of the abscess-walls passes through a stage of granulation, presenting, it may be, stalactite-like elongations. Later, a smooth, cicatrice-like condition of the surface appears.

When the drainage of a pelvic abscess is incomplete, there follows but a partial disappearance of adhesions and exudations; and an incomplete restoration of the normal condition of the pelvic structures results. If early and perfect drainage is secured, and the patient is of fairly good constitution, there may be, to all appearances, complete restoration to health. Adhesions melt away, deposits become absorbed, displaced viscera regain their proper positions, normal mobility returns, and functional activity is restored. But, after long continuance of the abscess, after prolonged existence of fistulous openings, such favorable results may not follow cure of the abscess and closure of the fistulæ. After the latter conditions there often follows a permanent crippling of the pelvic viscera; ovaries are incapacitated because of parenchymatous changes or peripheral deposits and adhesions; tubes remain occluded or fixed in unfavorable positions; the bladder is dragged upon, either directly or indirectly, by adhesions or shortened ligaments; the rectum is disturbed; the uterus is displaced, and its mobility lessened; the pelvic circulation is interfered with; and the blood-vessels, but especially the veins, are compressed and their functions perverted. Sterility becomes a sequence, and the patient passes into a condition of more or less confirmed invalidism.

When pus exists within the pelvic cavity, the indication certainly is to secure its evacuation by surgical interference. Nature, unaided, very often fails to effect a sufficient opening at the most advantageous point. The most advantageous point, when the abscess is in the true pelvis, is usually in the vagina, but the majority of spontaneous openings do not occur in the vagina. While waiting for a spontaneous open-

ing into the vagina, the wall of the bladder or rectum may give way or become so thinned that a secondary opening into one of these may occur even after bursting into the vagina has taken place. When more than one fistula occurs, they form consecutively, and the secondary ones are usually due to imperfect drainage, or to extreme attenuation of tissues from delay in the establishment of the first opening. It is from the same causes that long and tortuous fistulous tracts form.

If one feels convinced that pus is present—*i. e.*, that an abscess exists—is it judicious to wait with an expectation that the pus will be absorbed? I do not think that the aggregate result of such a rule of management would prove its judiciousness. It is exceptional that pus becomes absorbed in any part of the body. Even if absorption of the pus of a pelvic abscess occurs, it can hardly be effected rapidly, and crippling of the pelvic viscera is likely to remain, possibly permanently. In the vast majority of cases the pus formation continues, and an exit is found somewhere.

If one is convinced of the presence of pus, it devolves upon him to consider where and how to secure its exit. The guarded use of the aspirator to determine the presence of pus may be justifiable after one has strong evidences of its presence—evidences obtained from the systemic and local symptoms. Yet I can not but think that the premature introduction of the needle of the aspirator intensifies the inflammation and hastens or determines suppuration. Doubtless, however, in chronic abscess, where the symptoms are obscure, yet where an abscess is the most probable condition, the aspirator-needle, properly directed, becomes a valuable aid in diagnosis, and also in treatment. In chronic inflammation the needle is less likely to do harm, even if suppuration has not occurred, than in the acute process.

When early and complete drainage has been effected through the vaginal wall, recovery—even rapid recovery—frequently follows. The vagina tolerates the fistulous openings and the contact of pus. The bladder and the rectum

always resent such conditions, and most distressing symptoms, due to developed cystitis or rectitis, frequently arise when vesical or rectal fistulæ exist. Moreover, urine or feces may escape into the abscess-cavity and keep up the suppurating process. The muscular contractions of these viscera may at times close up the openings, and temporarily interrupt the drainage.

When the abscess is located in the true pelvis, and has been due to cellulitis or peritonitis, an opening can be made, usually with safety, through the vaginal vault. When the abscess is near the vagina, a boggy mass, bulging the vagina, can be felt, and occasionally fluctuation exists. Palpation may locate any large vessels intervening, and, with due care, an aspirator-needle or long bistoury may be thrust into the mass. Before this is done the bladder should be catheterized and its position determined, the position of the uterus ascertained, and the rectum emptied and located. These precautions being observed, there is little danger of penetrating either of these viscera, although the fact that this accident has occurred in several reported cases should not be forgotten.

If fluctuation can be secured in the vagina, the intervening tissue is probably thin, and a free incision with the bistoury should be made. If there is reason to believe that the intervening tissue is thick, and that there is danger of severing enlarged vessels with the bistoury, the aspirator should be used. After the introduction of the needle, if it is deemed safe and desirable to make a larger opening, the bistoury may be passed into the abscess, following the needle as a guide. If the abscess has arisen from an hœmatocele, the bistoury rather than the aspirator is specially needed, for the coagula must be removed by the finger, introduced into the abscess-cavity. If the coagula are permitted to remain, the dangers of septicemia are greatly enhanced. In other cases, when there is reason to believe that elongated masses of granulation are present, it may be necessary to have an opening large enough to introduce the finger or the smooth curette

for their removal. A free opening also admits of antiseptic washings and continuous drainage.

After the use of the aspirator the cavity can not be washed out, and not infrequently it is necessary to repeat, it may be several times, the aspiration. It is questionable whether the use of the aspirator excludes atmospheric air, for the resisting nature of the abscess-walls will not permit their approximation, and atmospheric pressure is apt to force air through the small opening made by the needle. The frequent development of empyema after aspiration of the serous effusion of pleuritis seems to indicate the probability that the use of the aspirator, under some circumstances, is not a guarantee against the admission of atmospheric air.

I would venture to claim that, in opening a pelvic abscess through the vagina, the bistoury is to be preferred, unless there exists special danger, in the individual case, of cutting into a viscus or an important blood-vessel, or unless the symptoms are obscure, as is sometimes the case in chronic abscess. In the latter instance the needle may be used for the double purpose of diagnosis and treatment.

It seems to me that the cases in which the abscess can be opened safely through the rectum, and not safely through the vagina, must be very rare. I have not met with such a case. An opening into the vagina is to be preferred greatly to one into the rectum.

If the abscess is high in the pelvis, it may not be safe to open into it from the vagina. If the pus has risen above the pelvis, an incision through the abdominal wall can be made at any point where it seems probable that drainage can be secured. If the abscess is external to the peritoneum, and has invaded the iliac fossa, an opening can be easily made above the crest of the ilium. The opening of a subperitoneal abscess above the brim is a safe procedure, and may be done at any point, being careful not to wound one of the viscera or an important vessel. If the abscess is intra-peritoneal, and has risen above the pelvis and can not be approached through the vagina, an incision carefully made near the brim

may reach the abscess-cavity and not open the cavity of the peritoneum, because of inflammatory adhesion of the point of opening. After such an incision there is very little danger of general peritonitis.

In some cases, however, the general peritoneal cavity will be opened. In such a case, after opening the abdomen, the abscess should be emptied with an aspirator. An incision should then be made through the abscess-wall, and the edges of this wound should be carefully sutured to the edges of the wound in the abdominal wall. Great care should be exercised to prevent the pus reaching the epithelial surface of the peritoneum. It is a striking fact that a large quantity of pus may exist in close proximity to the peritoneum, in fact, may be immediately in contact with the outer surface of the membrane, and peritonitis not result; yet a few drops of the same pus in contact with the epithelial surface will occasion fatal peritonitis.

Inasmuch as the superior wall of an intra-peritoneal pelvic abscess has coils of intestines attached, or imbedded in it, its incision must be made with extreme caution. In some cases it will be quite impossible to open through such a wall, because of the universal and intimate attachment of the intestines. I made an autopsy, in one instance, where such an impossibility existed, even in a *post-mortem*, so extensively had the intestines become matted together in the abscess-wall.

Although unquestionably there do occur cases of pelvic abscess, intra-peritoneal in origin, in which an abdominal incision is the best method of approaching the abscess, yet such cases are exceptional, for usually an opening through the vagina will be much the safest. The operation through the abdominal wall is at times simple and safe, at other times hazardous, even when unusual surgical skill is brought to bear.

In order to insure perfect drainage, it may be best in some instances to make a counter-opening through the vagina, but, as a rule, such will not be required. When two abscesses exist, one may be intra-peritoneal, the other extra-peri-

toneal. In such a case it may be necessary to make an opening through the vagina and another through the abdominal wall. This was necessary in a patient recently seen by me at the request of Dr. Wharton Sinkler. I first introduced the aspirator-needle through the vaginal wall. It penetrated a boggy mass of about one inch in thickness, and then came away forty-eight ounces of purulent fluid, all that could be obtained. Only a partial disappearance of the tumor followed the withdrawal of this fluid. It was evident that there was either another abscess not communicating with the one already emptied, or that there was a tumor of some other character complicating the case. The patient was in a state of extreme exhaustion, and was of a family of very decided phthisical history. Within twenty-four hours after the aspiration a rapidly extending facial erysipelas developed. Other evidences of septic infection preceded and followed the aspiration. The second swelling was not perceptible through the vagina. At the end of forty-eight hours there was no doubt as to the nature of this swelling. Its rapid extension through the iliac fossa and above the crest in a posterior direction indicated a subperitoneal abscess. It had probably originated in the outer part of the broad ligament and near the pelvic brim.

Because of the facial erysipelas and the patient's extreme exhaustion, an anesthetic was not administered. I cut carefully through the tissues overlying the abscess just above and in front of the anterior-superior spine, and evacuated again forty-eight ounces of purulent fluid. A finger introduced into the opening showed a diffused abscess in the subperitoneal areolar tissue. The peritoneum was pushed away from the fascia, and, wherever my finger examined it, it seemed of normal thickness. The fascia and peritoneum came promptly in contact as the pus was evacuated. A second time I used the aspirator on the first abscess through the vagina and drew off about four ounces of reaccumulated purulent fluid more offensive than that first drawn. On seeing the patient ten days later, the abdominal wound had closed,

and it was again incised and about eight ounces more of pus escaped. In all I had drawn off 108 ounces of purulent fluid, and there had been, in addition, an abundant drainage during most of the first ten days after the incision. In this case there were two pelvic abscesses—the first probably intraperitoneal, the second extra-peritoneal. That the abscesses bore a causative relation to the facial erysipelas was seen in the fact that, after emptying the second abscess, the erysipelas disappeared like magic. The patient recovered.

After incision into a pelvic abscess the same surgical rules obtain as in the after-management of other deep-seated abscesses.

Blood-coagula, fragments of lymph, shreds of disintegrated tissue, excessive masses of granulations, etc., should be removed with finger or curette. The drainage should be made as perfect as possible. Antiseptic syringing will frequently be indicated, especially if the drainage is not perfect. Care must be taken so as not to over-distend the abscess-cavity with the injected fluid. I prefer a weak solution of iodine in boiled water, sometimes increasing the strength. But care must be observed that the fluid is not too irritating.

There are rare varieties of pelvic abscess—differing chiefly in the nature of their causes—and fluid formations of non-purulent character which I have not considered in this paper. I have aimed merely to discuss in brief the more common varieties of pelvic abscess.



