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PELVIC CELLULITIS.

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PELVIC cellulitis, commonly called pelvic abscess, is a disease the nature of which was known to ancient medical writers. Archigenes and Paulus Aegineta give good accounts of it. In later times its study was neglected, as we may presume from the silence which prevails upon this subject. Not that this disease was not frequently met with, but that mistaken notions existed as to its nature.

In 1844, Marchal de Calvi published the first essay on it in modern times, entitled "Intra-pelvic Phlegmonous Abscess." About the same time Drs. Doherty and Churchill, of Dublin, each wrote an essay on this subject; that of the former entitled "Chronic Inflammation of the Appendages of the Uterus after Parturition"—that of the latter, "Abscess of the Uterine Appendages." But Prof. Simpson, of Edinburgh, more than any other, has extended our knowledge on this subject, for in his earlier as well as later contributions to medical literature, he has given us very clear and comprehensive ideas on this matter. He was the first to suggest the name of pelvic cellulitis as being in accordance with the pathology of the disease; for, he says, that we might with equal correctness call pleurisy, empyema, as pelvic cellulitis, pelvic abscess. This suggestion has been acted upon by Dr. West in his excellent work, not long ago published, on the Diseases of Women, in which he gives more details upon the subject of pelvic cellulitis than are found in any other text-book of the present day.

Medical men, long ago, meeting with abscesses about the pelvis, following delivery or abortion, regarded them as secondary deposits produced by the elements of the milk circulating too freely in the blood, thus giving rise to the name of "depots laiteaux." This

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theory, although it was the only plausible way known to the older physicians to explain away the cause of many diseases common to the puerperal state, did not prevent, however, accurate descriptions of these being put upon record.

We now know better, in regard to this disease at least, for it may be met with in all ages and conditions, from the infant of two or three years old to the old woman of three or fourscore. That it occurs most frequently as one of the sequelæ of delivery and abortion, is not remarkable, when we take into account the nature of things—such as the large amount of pressure and strain upon the soft parts underlying and intervening between the numerous folds of the pelvic fascia. Other causes than those named have been found resulting in pelvic cellulitis; local violence, ulceration and inflammation of the uterus, disordered catamenia, and, perhaps, the taking of cold during the menstrual period. Again, cases have occurred where no exciting cause could be clearly ascertained. Primiparæ appear to be more subject to this affection than those who have borne children. This would point to the character of the labor as being the chief cause, inasmuch as in first cases it is more protracted; but on the other hand it occurs in cases where the labor was natural, and everything promised a speedy and happy recovery. Inflammation of the cellular tissue of the pelvis occurs sometimes in the male, after operations about the rectum and urethra.

Pelvic cellulitis consists in acute or subacute inflammation of the cellular tissue of the pelvis. It cannot be very accurately described, by reason of the present imperfect knowledge of the exact distribution and relations of the pelvic fascia. Descriptions of the fascia of the female pelvis in anatomical text-books, give us but meagre aid in rightly understanding the practical relations of the various folds of the fascia of the pelvis, with reference to the disease now under consideration, as well as the common disorder of uterine displacement. Our knowledge of the morbid anatomy of pelvic cellulitis will be incomplete until the pelvic fascia is studied with especial reference to diseases attacking the uterus and its appendages. In former times, vague notions existed among surgeons as to the proper treatment of hernia, and it was not until the anatomy of the abdominal fascia was thoroughly studied and described, that the knife was used with precision.

The pelvic fascia in its general distribution may be summed up as follows: One layer of fascia, which is continuous with the iliac fascia, has osseous attachment to the ilio-pectineal line, or brim of the pelvis; dips down and lines the interior of the true pelvis; then divides into two layers—the one, after forming the floor, is reflected over the broad ligament, including the ovaries and back and fundus of the uterus; the other forms a sac between the uterus and rectum and uterus and bladder.

**Between the various layers of fascia there lies, densely packed,**

a large amount of cellular tissue; and numerous loculaments and dissepiments are the natural consequence of so many fascial adhesions and divisions. Inflammation may seize only one of the divisions of the pelvic fascia, and the effusion may confine itself to the loculament first involved, or may spread slowly or rapidly to parts adjacent. The extension of the disease into neighboring parts will depend much on the nature of its inclusions; for when the effusion is shut up between fascia and bone it can spread less readily than when it occurs between fascia and fascia, or fascia and muscle. The relation of the effusion, however, as to its exact inclusion, for reasons already given, can sometimes be but approximately determined.

Inflammatory effusion does not necessarily go on to suppuration, for in many instances, by appropriate management, resolution takes place short of this. The ordinary course of pelvic cellulitis is, in the first place, effusion of serum into the cellular tissue, which may remain unchanged for many days. Prof. Simpson relates the case of a girl, where the effusion was behind the uterus and ovary; thinking it was pus, about the tenth day from its commencement, he punctured the tumor by means of an exploring needle; pus did not appear, but a clear, limpid fluid resembling urine, which led those present to think that he had committed a great blunder and tapped the bladder, but on standing for a short time, the fluid showed itself to be coagulable serum. This occurred when the disease was always spoken of as pelvic abscess. In from one to two weeks, generally, pus is generated, but, as before remarked, the serum is absorbed in many cases, and the disease terminates before suppuration has had time to declare itself. On the other hand, neither absorption nor suppuration sets in, but as in a case related by the author already cited, and which was supposed to be cancer, the deposit was found to be one of coagulable lymph. In this last condition of things, when the lymph is deposited between fascia and fascia, but particularly between the latter and bone, the sensation of hardness which it conveys to the touch is equalled only by ligneous or osseous substances. This form of deposit is remarkably slow in its course, and may take months, nay years, before it breaks up and discharges. The effusion sometimes increases very rapidly, rising high up into the abdomen in a few days. When the disease has progressed until a true pelvic abscess has formed, the latter tends to relieve itself of the pent up matter in various ways, depending in a great measure on the extent of the abscess, and its relation to external parts. When the abscess is confined to the true pelvis, it is disposed to open into the vagina, rectum, uterus or bladder; when above the brim of the pelvis, the tendency is to discharge itself on the iliac or inguinal surface. A collection of pus is sometimes found upon the hip, or near the rectum, caused and originated by the escape of matter from the pelvis through the sacro-ischiatic notch. Prof.

Simpson relates cases where abscesses burst consecutively into two viscera, forming vesico-uterine, vesico-intestinal, and utero-intestinal fistulæ. It is very remarkable, how rarely these abscesses open into the cavity of the peritoneum. This fortunate fact, Cruveilhier says, is accounted for by the intervention of a layer of fascia, which prevents the discharge of matter in that direction. The existence of Cruveilhier's layer of fascia, however, is denied by some; but be that as it may, the fact substantiating the rarity of abscess pointing and discharging into the peritoneal cavity still remains unchanged.

The shape of the tumor is governed by its situation, and the folds of fascia which include it. Effusion most frequently takes place between the folds of the broad ligament, expanding the latter, and being bound down to the pelvis and uterus, and loose in the centre, assumes a bulging outline exceedingly hard to the touch. This state of things may simulate tumor of the ovary, but as no tumor of this organ is adherent to the pelvis, there is little liability to error. The disease may confine itself entirely to one side of the pelvis, but sometimes it passes down to the cervix uteri, assuming the feel of a carcinomatous affection, passes over to the opposite side, and there gives rise to a fresh abscess. It may and often does originate between the uterus and rectum, and uterus and bladder, or entirely above the brim, the infiltration pushing up the peritoneum before it. Prof. Simpson speaks of cases where sloughing of the cellular tissue of the pelvis took place, caused by compression of the vessels by the effused serum or lymph. The uterus, as may be inferred from the nature of the disease, is often found displaced, the displacement depending upon and being influenced by the extent and position of the disturbing cause.

The symptoms of pelvic cellulitis are partly local and partly constitutional. Dull pain and a throbbing sensation are complained of in the pelvis, and there is great tenderness on pressure over the lower portion of the abdomen. The effusion, by pressing upon adjacent viscera and nerves, gives rise to the most characteristic symptoms of the disease, namely, dysuria and painful defecation; the former from pressure on the bladder, the latter from pressure on the rectum. Pains of a neuralgic character are frequently complained of, shooting down one or both lower extremities and simulating sciatica. On passing the finger into the vagina, severe pain is caused by pressure on the tumefied portion, and the temperature of the canal is much elevated. When an attack comes on immediately after delivery, the lochial discharge is nearly if not entirely suppressed. The constitutional disturbance is characterized by the usual symptoms of fever; dry and hot skin, quick pulse and restlessness. This fever lasts for several days, and may subside spontaneously. It belongs to the primary stage, before suppuration has commenced in the pelvic effusion. In the second stage, or that of the formation of abscess, the character of the fe-

ver is modified; it assumes the hectic type—worse in the afternoon and evening. When much constitutional irritation exists, the patient has the appearance of one in advanced consumption, so emaciated and prostrated does she become; but there is this difference, that associated with the chill and hectic of this disease, there is absence of cough, a symptom invariably present in phthisis.

At the commencement of the disease, on account of the vagueness of symptoms, its presence may be overlooked; this too, especially after delivery, as some tenderness about the abdomen is not unusual; but after a few days, there is no difficulty in ascertaining the nature of the affection, if due examination is made, and the symptoms, local and constitutional, properly considered. Pelvic examination ought to be conducted with both hands; the index finger of the one in the vagina, while the other hand is used externally. In this way the swelling, when situated in the broad ligament, or between the uterus and bladder, can be embraced between the fingers, and its size very nearly appreciated. These swellings are very hard to the touch, and irregular, generally, in their outline, and cause much pain upon pressure. The effusion may extend itself in different directions, according to its amount; and this, with its immobility, is a most valuable guide in deciding as to the nature of the disease, for in no other affection does a similar state of things exist. Tumefaction may be felt anterior or posterior to the neck of the uterus, or in the septum between the vagina and rectum. According to the amount of effusion, the uterus may be found fixed or considerably displaced, and access to the os attended with much pain and difficulty, while the vagina, from the extension downwards of the swelling, may be much encroached upon. When the tumor occupies the space between the uterus and rectum, or recto-vaginal septum, external examination would fail in detecting it; hence the necessity of vaginal examination in a case of suspected pelvic inflammation. Should there be doubt as to the nature of the tumor, recourse may be had to the exploring needle, a very safe and reliable agent in resolving the difficulty. If there be feeling of fluctuation in any accessible portion of the tumor, there let the puncture be made. As sometimes pus does not flow along the canula, it is best in all cases, where matter does not appear upon puncture, to apply suction, and then to blow through the tube. A single drop of pus, thus obtained, may throw light upon an obscure affection. The microscope will also aid us, if doubt remains as to the nature of the matter obtained through the exploring needle.

Pelvic hæmatoma, or blood tumor of the pelvis, might be mistaken for pelvic cellulitis, but there is a wide difference between their symptoms at the onset. Pelvic hæmatoma accompanies some menstrual derangement; comes on suddenly, without fever. There is great pain in the pelvis at the time of the effusion of blood, and the patient may faint; but from both of these she becomes

soon relieved. The constitutional disturbance is slight. The tumor is large from the first, and does not increase as in pelvic cellulitis, nor is it nearly so painful on pressure.

Although this disease, when it goes on to the formation of pelvic abscess, frequently reduces a previously strong and healthy female to the very verge of the grave, yet the number of cases resulting fatally is small, amounting, perhaps, to not more than four per cent. This is encouraging to the physician, when he has to deal with a lingering case of this disease, for in no other affection, perhaps, except phthisis, does he find such general emaciation and prostration. Reproduction does not appear to be much interfered with, for children have been borne by women who had previously suffered severely. Abortion, however, is apt to occur, in cases where the uterus contracted adhesions during the pelvic disease.

The treatment of pelvic cellulitis must vary according to the stage in which it is found. When detected in the outset, it is to be treated antiphlogistically. Leeches are to be applied to the cervix uteri or hæmorrhoidal veins. To the latter place they are very easily applied; for by placing them in a wine-glass, and inverting it against the anus, they take hold in a very little while. If the pain or throbbing do not subside after the first bleeding, it must be repeated in about twenty-four hours. Calomel and opium may be given, until the specific action of the mercury is produced. It is considered best to bring the system speedily under the influence of the mercurial by small and frequently-repeated doses. Counter-irritation by means of nitrate of silver, croton oil or ointment of tartarized antimony, may be used with much benefit. The fly blister is to be avoided, from its tending to aggravate the already too urgent dysuria. Of the counter-irritants, the blister with nitrate of silver answers the purpose better, perhaps, than any; it can be made in a few seconds, is simple and perfectly manageable. The process consists merely in passing the stick of solid nitrate of silver, moistened at the tip, a few times across the skin over-lying the seat of tenderness, and, anon, a blister follows. Warm fomentations will be found serviceable in soothing pain and allaying irritation. Should there be much fever and constitutional irritation, anodynes and febrifuges may be resorted to. The bowels are to be kept freely open by purgatives.

After the first, or acute stage has passed, and the disease has established itself, the aspect of the patient changes, and local pain subsides more or less for a time. Purulent matter is now pent up in the system, and its constitutional effects are beginning to show themselves; chill and fever in afternoons and evenings, restless nights, and general prostration. Upon examination, tenderness will be complained of, on pressure over the seat of the disease. This may be the case, where no complaint was made of the pain, previous to examination. Instead of the depletory, a supporting

plan of treatment must now be adopted. Quinine and iron, beef-tea, nutritious broths and malt liquors, are especially indicated. Poultices, or steamed-bran fomentations, are to be constantly applied to the abdomen, and warm vaginal injections used twice or thrice daily. This course will sustain the patient's strength, hasten the discharge of the matter, and alleviate the pelvic uneasiness. Due attention must be paid to the bowels, as constipation will add very much to the sufferings of the patient. Anodyne applications may be used internally or externally if much pelvic pain is complained of. Suppositories of morphia or other anodyne substances may be passed into the vagina or rectum; to be prepared after the manner recommended by Prof. Simpson—with wax, lard, &c.; they melt at the temperature of the body, and the medicinal portion is readily absorbed; not so, if the suppository is dispensed in the old way, made as if a pill.

It not unfrequently becomes a serious question as to whether the abscess is to be left to burst of itself. Experience has taught that it is best to defer surgical interference as long as circumstances will warrant, and leave it to nature to determine the place, time and mode of evacuation. Sometimes, however, it becomes absolutely necessary to make an opening, especially if the abscess be large and the walls thin, or if the matter is deep-seated, or if the constitutional disturbance threatens life. If incision of the abscess is determined upon, let the opening be made into the vagina, and not into the rectum, for in the latter there is danger of the opening becoming fistulous, and of constant irritation by fecal matter. This would prove a disagreeable complication, whereas a wound in the vagina soon heals, and obviates this probable result. The posterior cul de sac of the vagina, in most cases, is the portion recommended for incision, as there the wall is thinner and more easy of access. If the abscess can be opened externally, so much the better; but this can rarely, if ever, be done, unless the matter lies above the brim of the pelvis. Prof. Simpson recommends the tenotomy knife for this operation, or in lieu of it a bistoury, guarded to within a certain distance of the point with a piece of string or tape. But, not unfrequently, puncture has to be repeated three or four times; besides, other channels of exit are often found by the matter than that made by the knife. The general rule, therefore, is to avoid opening artificially, if possible; but if the constitutional disturbance be very severe, then the abscess must be punctured. After evacuation of matter, the parts gradually assume the natural condition, but a thickened state of the cellular tissue remains for a long time after all pelvic uneasiness has subsided. Sometimes sinuses—communicating with adjacent viscera, or the external surface of the body—discharging sero-purulent matter, remain after the disease has disappeared in every other respect. Prof. Simpson recommends counter-openings to be made, and the use of tincture of iodine, to be injected into the

sinuses, for the purpose of setting up adhesive inflammation in their walls. He also suggests the use of fine iron wire, with the view of bringing about the same result.

The foregoing pages claim to be but an imperfect sketch of this interesting pelvic affection, and may seem redundant at the present time, after such an excellent account of it has appeared in a foreign journal, but as notes on this subject were made previous to the publication of Prof. Simpson's lectures in the *Medical Times and Gazette*, it was thought worth while to bring them forward.

#### DR. ELWELL'S MEDICO-LEGAL TREATISE ON MALPRACTICE AND MEDICAL EVIDENCE.

[Concluded from p. 265.]

A MEDICAL witness is not allowed to read books on the stand. He sometimes attempts to do so, because he does not know the rule of law concerning this matter. The ground on which the rule depends, is a singular one. It is, that the presiding judge can consult authorities, or read books, as well as the physician. A question arises—does the judge do this? Has he done it? If not, then may the accused suffer not a little from such judicial negligence, involving, as it does, much ignorance where knowledge is truly power. The medical witness must study books on medical jurisprudence. He must attend lectures about it, as a branch of his professional education. He goes into court prepared by knowledge for his great office; and if he have it not, he meets its sure consequences. He may and must use such knowledge. Books would serve only to confirm, what his memory allows him to declare.

Another important matter for the physician in court. He may, on the stand, consult the notes he has taken of the case, concerning post-mortem appearances, chemical analyses, quantities, numbers, &c. He may do this under the rule, "*to refresh his memory,*" but not to get *information*. Is there not the same analogy between what we have read and about which we have deeply thought, as between notes and their use on the stand? We do not mean in these questions to attempt the vain office of altering judicial rules, but to state to the medical witness what he *may* and what he *may not* do.

There are other annoyances in court which have their source and character in those who are more or less concerned in the administration of public justice. We have had but little experience here, but we have seen the effects of court ethics upon others. We recal an instance, but it was one which can hardly be repeated. A person was indicted for two capital felonies, alleged to have been committed in the same place, and at the same time, viz., murder and arson. We were summoned for the defence in