was required, a curved dilator was much more readily introduced, and that was the variety most frequently used in the United States. In these cases, certainly not very numerous, of dysmenorrhoea, where upon the introduction of a sound exquisite sensibility was found at the internal os, a cure was almost certain to follow the use of a curved dilator—the curved form being especially required by the fact that a flexion, usually anterior, was present. He did not believe that enlargement of the canal was in itself the curative means, at least in the majority of cases. If a computation was made of the quantity of blood that the canal must transmit in a given time, supposing the flow was of the average amount, it would only be one drop in three minutes. Surely a canal must be very small that would not permit this amount to pass without pain. So too, in some cases where the pain of menstruation was intense and the uterine sound of ordinary size could be readily passed; as it was not then enlargement of the canal, but possibly nerve-stretching, or the relief of a local inflammation, similar to the result from stretching of the anal sphincter in which painful, spasmodic contraction followed an anal fissure, that was accomplished by the use of the dilator, and thus the painful menstruation was relieved. As to the question of rapid or gradual dilatation, he certainly preferred the former, giving an anæsthetic if necessary. If dilatation was necessary for the removal of the remains of an incomplete abortion, or of an intra-uterine growth, his preference was for Hegar's dilators, or the use of sponge tents. Hegar's instruments could be made so completely aseptic, the operation could be accomplished in so short a time, and the method in all its steps could be rendered so readily and completely aseptic, that it seemed to him much better than the so-called gradual method, requiring sometimes a day or more for its accomplishment.—Dr. REED, in reply, said that he believed that in all cases of recent pregnancy, and where remains of the product of conception were retained, the finger was the best instrument both for dilatation and treatment. His dilator did not readily injure the endometrium, because the small end of the dilator projected into the cavity of the uterus. It was generally at the os internum that difficulty was found, and thus the screw had a fair hold of the tissues of the cervix below, before the point reached the difficult portion of the canal. It was a powerful dilating instrument, and therefore ought to be used cautiously and with thorough antiseptic precautions.

PELVIC PERITONITIS.

By JAMES OLIVER, M.D., F.R.S. EDIN.,

Assistant Physician to the Hospital for Women, London, etc.

PELVIC peritonitis is an acute or chronic disease, consisting in inflammation affecting, it may be the whole, but more usually some part only of that serous membrane which, located within the cavity of the pelvis, enters not only into the formation of its walls and floor, but covers, more or less completely, the organs contained therein. The appellation is one, therefore, which includes peri-metritis, peri-oöphoritis, peri-salpingitis, and peri-proctitis. Although originating locally in the pelvis the inflammatory disturbance may, nevertheless, through a direct continuity of tissue, spread to and affect the whole peritoneal sac, constituting then what is called general peritonitis.

Inflammation of the pelvic peritoneum may occur at any period of life. It may exist before the establishment of menstruation or be developed after the cessation of the functional activity of the sexual organs. More commonly, however, it is engendered during the child-bearing epoch, the organs of generation being then more vulnerable. In the marital state the serous lining of the pelvis is especially prone to become the seat of inflammatory change, because of an increased liability to injury and disturbance of the sexual organs, consequent upon parturition and abortion. Ignorantly and unsuspectingly the woman often runs the risk of specific infection—a potent but occult influence, in many cases constantly at work, and tending to induce the disorder in question.

The inflammatory process may result in a thickening of the peritoneum and adhesion of opposing surfaces, the neighbouring organs, contained in the pelvis, being thereby firmly glued together. Very commonly, however, the material which exudes from the vessels, and subsequently coagulates, produces a distinct swelling, the consistence of which varies greatly. These phlegmons are often difficult to differentiate from those resulting from inflammatory

exudation into the cellular tissue itself. By a process of fatty degeneration and liquefaction the plastic exudation occurring in pelvic peritonitis may eventually become absorbed. Adhesions, however, generally ensue, the existence of which may be indicated by a more or less marked deviation of the uterus, the organ, that is, being more or less closely applied to one or other wall of the pelvis. Effusion of serum may take place, and this, when confined and large in amount, or rather, when capable of detection, constitutes what is termed encysted serous peritonitis. The transition from that of a serous to a purulent effusion is a gradual one. In the latter case the pus corpuscles are merely far more abundant than in the former. When effusion of serum has occurred the liquid portion may at length completely disappear by a process of gradual absorption. At first absorption takes place, as a rule, somewhat rapidly; as concentration advances, however, it is much more slowly effected. After absorption the disordered peritoneal surfaces come in contact and adhere. When the exudation is purulent this, too, may eventually become absorbed—the serous portion directly, the fibrin and pus after undergoing a fatty metamorphosis. This, however, comparatively speaking, rarely happens.

In pelvic peritonitis small suppurations frequently take place, and these, as distinct abscess formations, cannot be detected by the most careful examination. The probable existence of such in any given case is only surmised when small quantities of pus are detected with the rectal evacuations. Fortunately these ruptures occur most commonly into the gut; they may, however, as I have occasionally witnessed, rupture into the peritoneal sac, and so cause death. Regarding the mode of formation of these small suppurations, I have a word to say. They appear to me to result from the generation of pus corpuscles in the tissue of the peritoneum itself, and the perforation results merely from the deep penetration of these cells.

As to the etiology of pelvic peritonitis I have but little definite information to impart. The disease is especially rife in women, and may be considered peculiar to the female habit of body. This, to my mind, apart altogether from the risks incidental to child-bearing, or those dependent to a certain extent upon anatomical construction and direct structural continuity, points to a marked disposition on the part of this serous membrane in the female to inflammatory change.

Pelvic peritonitis is frequently idiopathic, and in many cases the exciting causes are not to be explained. The disease often develops in persons already debilitated or in association with some other disorder; this, however, proves no dependence, and does not justify the conclusion that the disease is secondary. Under such circumstances it ought to be viewed rather as a complication. Peritonitis accompanying puerperal fever and other infectious disorders may, however, be considered secondary. Injury is an exciting cause, and this need not be severe, as some persons seem especially prone to this inflammatory disease. I have seen fatal peritonitis follow upon the most trifling interference with the uterus, and this accident, when it occurs, is a most unfortunate one, apt as it is to engender invective. A most careful and thorough examination of the pelvic organs should be effected prior to undertaking any surgical or other interference with the uterus. Even in the hands of the most skilled gynaecologist this task is not always an easy one, as it is often most difficult to detect slight adhesions.

Pelvic peritonitis may be induced by a direct extension of inflammatory disturbance through continuity or contiguity of tissue, as happens frequently in salpingitis, especially when this is the result of gonorrhœal infection.

Inflammation of the serous lining of the pelvis may also be caused by neoplasms approaching the peritoneal surface, as happens frequently when the growth is malignant, and much more rarely when it is benign.

In many cases this disorder appears to result from exposure to cold, from the indiscriminate use of medicated injections, and the adoption of other ill-advised methods of protection against impregnation. It may also be caused by the rupture into the peritoneum of a cyst (containing virulent fluid), or abscess of the ovary or of any other structure. Such abscesses may be simple or tubercular. It sometimes results from the discharge of any irritant fluid into the peritoneal sac, either through an abnormal or, it may be, the natural opening of the Fallopian tube, hence the risk in injecting simple or medicated fluids into the cavity of the uterus.

Pelvic peritonitis, it is alleged, is more common in primiparæ.

than multiparæ; this however is simply due to the fact that being in many cases connected with parturition and abortion, those who are susceptible to this inflammatory disturbance evince it when those causes which tend to induce this disorder are for the first time called into existence.

If the disease be due to the rupture of any sac containing pus, or to the escape of any irritant fluid into the sac of the peritoneum the patient may never rally, but die within a few hours, it may be in a state of collapse. In a few rare cases it happens that adhesions already formed may prevent the extensive or free escape of such fluids, and recovery more or less complete is thereby rendered possible.

In the more acute cases the disease may be ushered in by a distinct "chill" or rigor, a feeling of intense indisposition being thereafter experienced. In the majority of cases there is no chill, and the patient is wholly unable to fix a time when the inflammatory process may have originated. Usually the onset is insidious. Often I have seen patients the victims of pelvic peritonitis who were wholly ignorant of the possible existence of anything like a grave disorder. The disease may, as in a patient recently under my care, develop in the peritoneum covering the rectum, without giving rise to any symptom other than a feeling of discomfort and pressure in the "back passage." In this case the uterus was closely applied through the medium of a small amount of plastic exudation to the upper part of the rectum. In many other cases which have come under my care, the insidious character of the disorder has been noteworthy and astonishing. In the majority of cases pain is the symptom most frequently complained of. This is as a rule referred (although not constantly) to the side which is the seat of inflammatory change. I have occasionally, as in the case of the pleura, noted its reference to the opposite, and as far as examination goes healthy, side. Sometimes the pains are ill-defined, and are felt more or less extensively in the lower abdomen. They may recur in paroxysms, and continuing severe for two or even five hours, leave the patient afterwards so very tender that she is wholly unable to bear even the slightest pressure on the lower abdomen. Such paroxysmal pains may, like those complained of at the onset of the disease, be accompanied with nausea and vomiting. The pains vary; sometimes they are slight, sometimes severe, and occasionally, especially when the peritoneum covering the uterus is involved, they are likened to those of labour.

Menorrhagia is a most common association of pelvic peritonitis, and in many cases it is this alone which leads the patient to seek advice. There is as a rule no pain so long as the hæmorrhagic discharge is free, a fact explicable on the ground of depletion. Pain may, however, develop and continue whilst the patient is losing, the loss apparently being insufficient to relieve the state of consequent increased vascular tension. This is especially apt to be the case if the inflammatory attack develop during menstruation, and there results no augmentation in the amount of discharge.

Pelvic peritonitis may develop in a woman who has either recently miscarried or been delivered of a full time child. Under such circumstances the symptoms are especially prone to be insidious. Slight pains may have been experienced since the abortion or confinement, or a hæmorrhagic discharge more profuse than usual may appear without the patient experiencing any other discomfort. The discharge, once established, continues as a rule free, and more or less constant for weeks or even months. Occasionally clots are expelled. In such cases no pain whatever may be complained of till the hæmorrhagic discharge ceases. The pain may be of the "bearing down character." This bearing down pain differs from that associated with initial prolapse in that it continues when the patient is recumbent. This symptom in pelvic peritonitis is the result of structural change, although it may sometimes be associated with structural enfeeblement as well. In prolapse it is a direct result of gravitation, and ceases to be experienced when the influence of this factor is withdrawn.

Pain may be referred to the hip, the thigh, or vagina, according to the distribution of those nerves implicated, whether directly or in a reflex manner. As a result of pressure, I have occasionally noted a distension of the superficial veins of the thigh.

Bladder Symptoms.—If the disorder be free from complication, there is, as a rule, no frequent desire to pass water. In the early days pain during micturition is seldom complained of. When, however, adhesions have formed, pain is experienced, either when the bladder is over-distended or over-contracted, and the pain will continue so long as either of these states of this viscus exists.

If the patient, therefore, does not answer immediately the call to pass urine, pain more or less severe is complained of. Under such circumstances pain is specially noted in the early morning after sleep. In the majority of cases pain is experienced for a greater or less length of time after the bladder rids itself of its contents.

Rectal Symptoms.—Plastic deposit may insidiously encircle the sigmoid and upper part of the rectum, and induce symptoms of pressure, with or without pains of a shooting character referred to the "back passage." The gut may even, in some rare cases, become completely constricted, and serious symptoms in consequence ensue.

In the majority of cases of pelvic peritonitis the temperature of the body is but slightly elevated, except when the inflammation is severe and extensive, or when the effusion is from the first purulent or has become so. In chronic cases the pain is, as a rule, aggravated just before, but is relieved by the appearance of the recurring hæmorrhagic discharge. Suppuration and abscess formation is not at all an uncommon result of pelvic peritonitis. Purulent exudation sometimes takes place (commonly in association with metrorrhagia and little pain), and usually ends fatally when the inflammation is severe and extensive. As a rule, adhesions are formed before the granulation tissue generates pus, and the pus so confined and accumulating produces one variety of pelvic abscess. The peritoneum itself, as well as the inflammatory adhesions confining the purulent exudation, become adaptatively thickened, and thereby the risk of extravasation into the general sac of the peritoneum is minimised. Fortunately rupture takes place rather towards the bowel, vagina, or some other pelvic structure, or occasionally towards the abdominal wall. The most frequent and by far the most advantageous location for discharge of the contents of a pelvic abscess is at some part of the bowel. I have seen pelvic abscesses in which the walls of the sac had become so thickened, and the fluid therein contained caused so much tension, that the differential diagnosis from that of uterine fibroid was rendered most difficult.

REPORT OF A CASE WHERE, FROM CON- GENITAL DEFORMITY, A MAN AGED FIFTY-FOUR YEARS HAS PASSED HIS FÆCES AND URINE BY THE URETHRA ALL HIS LIFE.

By FREDERICK PAGE,

Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner in Clinical Surgery, Edinburgh University.

A. B., aged 54, a small-built man of a peculiar dark complexion, not unlike that of a person suffering from Addison's disease, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, May 21st, 1888, and gave the following history. Immediately after birth it was discovered that fæces and urine were passed from the meatus urinarius, and that the anus was imperforate. An attempt was made by a surgeon to establish an anus in the natural situation, but the operation was not successful; fæces and urine still passed by the urethra, though fluid has from time to time escaped from the anus. At the age of 10 years the urethra became blocked by hardened fæces. Relief was obtained from an incision into the urethra immediately in front of the scrotum, and through the fistula thus formed the patient has continued with great difficulty and discomfort to pass his fæces and urine. He says he is in the habit of taking aperient medicine daily, and has to squeeze his fæces through the fistula with his fingers, the proceeding generally occupying from an hour to an hour and a half. From time to time the fistula has become blocked, and then the patient has passed his fæces and urine from the meatus. Sometimes, too, the urethra became blocked, and then the patient has passed his fæces through the fistula and his urine by the fistula and from the anus, till he has succeeded in displacing the obstruction. His urine is generally clear and natural in appearance, but sometimes there is a brown deposit from it, and it has a faecal smell. He has been married twenty-four years, and is the father of one child.

Latterly, the fistula has contracted, and thus his difficulty has been increased. Three days before admission the urethra became