ULCERATIVE PROCESSES.

Besides the uterine abscesses, the result of acute metritis, the cancerous and tuberculous ulcerations, and the puerperal suppurations, ulcers occur on the vaginal-portion.

In the course of uterine and vaginal catarrh there arise excoriations or abrasions of a stellate or annular form around the os externum which commonly extend into the cervical canal. These at times pass into erosions and ulcerations marked by papillary granulations, of a fungoid aspect, or the surface is tuberous through the exuberant development of ovula Nabothi. The origin and persistence of this state are favored by hypertrophy, hyperæmia, and varicosity of the vessels of the vaginal-portion.

The so-called *phagedenic ulcer*, the *corroding ulcer* of Charles M. Clarke, of the os uteri, is very rare. Its existence otherwise than as a stage of concroid or cancer is questioned. But I believe I have seen it as an indented hollowed ulcer on a hypertrophied, hard, callous vaginal-portion, eating away the cervix uteri, and seizing upon the neighboring structures, in a manner very similar to that of lupus exedens.

The *syphilitic ulcer* possessing the proper characters of the primary chancre is not common; but it may at times be observed exhibiting a closely similar aspect to that which is seen on the penis, and producing in like manner sores more or less sharply defined on the vaginal duplicature which lies in contact with the cervix uteri. On examining by the finger, the sharply-defined edge of the syphilitic sore may at first impose on the sense of touch for the os uteri, the pit or depression formed in the fundus of the vagina is so distinct. It is best treated by nitric acid, the acid nitrate of mercury, or the actual cautery.

ENDOMETRITIS: UTERINE CATARRH.

Inflammation may be more or less limited to the lining membrane, constituting endometritis. This may take its rise in childbirth; and it may be general, or chiefly restricted to the original seat of the placenta. The placental seat remains rough, presenting papillary projections; perhaps one or more may be large enough to deserve the name of polypus.

In the case of endometritis proper, the uterine contraction after labor has been efficient, so as to prevent the entrance of septic matter into the venous channels and lymphatics, and thus to obviate metritis.

Where the constitution is sound, free from morbid diathesis, endometritis, treated early, admits of easy cure. Rest alone may be sufficient. The regenerative power of the uterine mucous membrane is so active, that the degenerated tissue being cast off, a new sound one is easily formed. But if there be a morbid diathesis, as trumous, tubercular or syphilitic, the cure may be indefinitely protracted. The mucous membrane of the uterus and its glands is not less prone to receive the stamp of these diatheses than is the mucous membrane of other organs. The strumous mucous membrane of the uterus is tumid, undergoing constant epithelial shedding, its glands are hypertrophied, and secrete an excess

of mucus. This, in fact, is one of the most troublesome forms of uterine catarrh.

Chronic endometritis leads to the exuberant production of ovula Nabothi in the cervix and on the vaginal portion. Indeed, Lancereaux has designated this as "cystic metritis." In some cases the cervix is virtually closed by a collection of cysts disposed in a loculated stroma, and containing gelatinous mucus, compressing each other. The vaginal-portion is hard, tuberous, from the distension caused by these projecting distended sacs. Often, one or more of these cysts make their way through the os externum, and, becoming more pedunculated than the rest, appear in the vagina as vesicular polypi.

When these occur in women past the climacteric, the touch and appearance forcibly suggest the suspicion of commencing malignant disease. The shot-like hard projections around the os; the red, or bluish-red, angry-looking mucous membrane in which they are set, make up a condition hard to distinguish. Usually, however, the vaginal portion does not become so large as in cancer; it does not become fixed, and it is less apt to assume the mushroom shape. It is best treated by decided applications of actual cautery, or of potassa cum calce.

The ovula Nabothi are partly closed dilated mucous sacs of the mucous membrane of the cervix, but much more frequently they appear as small collections of nuclei at various depths in the submucous tissue of the cervix; these capsules grow with transformation of the nuclei to cells, and project upon the surface where they dehisce, or prolapse as polypi. They contain a gelatinous mucus, mixed with cells and nuclei, fat-globules, spindle-shaped and many-branched cells, and colloid granules.

When there is free secretion of mucus, these polypous, mucous-membranous growths, vesicular polypi, and small sarcomata lead to contraction or even closure of the os uteri, by means of a richly nucleated, fibrillous outgrowth of connective tissue. This leads to retention of the gradually increasing pus or mucus in the uterine cavity and cervical canal. The uterus may thus be distended to the size of a goose's egg, of a fist, or even to that of a man's head; its walls become hard, sometimes thinned; its mucous membrane is transformed into a smooth or papillary connective tissue growth; its contents are a colorless synovial-like, or yellowish, red-brown, or chocolate-colored glutinous-fatty fluid showing cholesterine or pus. This is the so-called *hydrometra*. When the canal of the cervix gets distended, in like manner, the os internum remaining narrow, the hour-glass form of uterus is produced—the *uterus bicameratus*. In some rare cases, perforation has occurred through an ulcerative process allowing the contents to escape into the peritoneum.

This distension of the uterus almost necessarily leads to retrograde distension of the Fallopian tubes, which are even more likely than the uterus to undergo perforation.

Within the period of generative capacity, chronic catarrh may lead to hypertrophy of the uterus. During decrepitude, it leads to relaxation and a pulpy state.

An *exudative* or *croupous endometritis* is seen in rare cases as a secondary appearance in the course of typhoid, cholera, exanthemata; and especially with a diphtheritic inflammation of the vagina in childbed.

Bennet says internal metritis is a rare form of uterine inflammation; that it has only been considered common because it has been confounded with inflammation of the cavity of the cervix, a disease which is very common. On the other hand, it may perhaps not unfairly be said that internal metritis, being out of sight, may often escape recognition. Certain considerations, however, incline me to think that the reaction against Bennet's too exclusive limitation of inflammation to the cervix, has been carried too far:—1. In a large number of cases, treatment directed solely to the os and cervix uteri cures all the disease. 2. Not infrequently, before the cervical disease is healed, pregnancy, a function which pertains to the body of the uterus, and which therefore implies a healthy condition of that part, occurs. 3. The proportion of cases in which it is necessary to resort to intra-uterine medication, although certainly greater than Bennet would seem to acknowledge, is limited. 4. The cervix is far more subject to injury in parturition.

Generally speaking, endometritis proper takes its origin in imperfect involution after labor or abortion, in obstructed or interrupted menstruation, and in irritation from foreign bodies; whilst inflammation of the cervical cavity far more frequently takes its rise in the traumatic process of labor, in excessive sexual intercourse, and in infection. Under common origin, or by extension, there may be, and frequently is, co-existent inflammation of the mucous membrane of both cervix and body.

It is especially, however, subjects of strumous or lymphatic diathesis who are prone to this disease. It is remarkable what slight causes will in such subjects produce it. And it is in these that the disease is also most rebellious to treatment.

Uterine and Vaginal Catarrh.—The uterine and vaginal mucous membrane is liable to similar morbid influences to those which attack other mucous membranes. For example, it is liable to inflammation from suppression of function, as from cold acting whilst the membrane is in physiological hyperæmia. It is liable to be affected by morbid poisons, as variola, scarlatina, syphilis, measles, which are carried to it in the blood. It is liable to be affected by poisons or irritants directly applied, as the poison of syphilis or gonorrhœa, or, as in labor, by the poison of scarlatina carried by the touch.

Just as catarrh is produced in the air-tubes and intestinal canal by exposure to cold, damp, and irritating agents, so it is with the mucous membranes of the genital tract. The catarrh so produced is a subacute form of inflammation. The membrane becomes vivid red, there is a sense of local heat; and almost always there is a mucous discharge, more or less tenacious, and varying in color from cream-white to yellow and yellowish-green; sometimes it is sero-mucous. If the discharge is yellowish-green, very abundant, and coming from a highly-injected surface, and the vagina and urethra be implicated, so that there is pain on micturition, the *presumption* is that the source of the inflammation is gonorrhœal infection. But the greatest circumspection is necessary in giving an affirmative opinion.

Gonorrhœal infection is only one of numerous causes of colpitis, which may involve the cervical and even the uterine cavities. In very many cases it is impossible to assign the particular cause. There is often no

distinctive mark. Colpitis is colpitis. It is often no more possible—apart from history—to declare that a particular colpitis arose from a specific cause, than it is to declare the actual cause of a case of bronchitis. The practitioner, who is not on his guard, is constantly in danger of falling into etiological errors that may entail the most painful social and domestic consequences to the patient and others, and involve himself in serious complications. I have known the existence of leucorrhœal discharges in girls give rise to the suspicion of their having been abused, when there was the strongest reason to believe that the true source was struma, and in one or two cases, scarlatina. Here, as in so many difficult positions in medical practice, we must be content to limit our utterances, verbal or written, to the strictest conclusions from exact observations. The history or extraneous considerations must be rigorously excluded. To admit in these delicate scientific questions the historical element in forming a diagnosis, is to make our opinion the reflexion of the errors, the prejudices, the suspicions, the malice of others. Science has nothing to do with all this. The only safe course is to discard from our consideration everything but what we can subject to actual observation. The physician can diagnose colpitis when the disease is before him. He can only form a conjecture as to the cause, which cannot be before him.

The most common form is the *catarrhal endometritis*. This may be acute or chronic.

The *acute catarrhal endometritis* arises from the sudden action of cold, especially if acting at a menstrual period, from excessive sexual intercourse, from gonorrhœal infection; it occurs in acute fevers, especially the exanthemata. It is in cases of the latter kind that opportunities of studying the affection in the dead body occur. The mucous membrane of the body of the uterus presents red streaks or spots from injection, or it is uniformly red, more or less swollen, softened, here and there bleeding, and covered with a red-streaked mucus, or creamy fluid with pus. The submucous layer is, in severer cases, hyperæmic, softened, pulpy. The mucous membrane of the cervix is at times greatly injected, the contents of the ovula Nabothi are turbid; when burst, they yield a thinner fluid. The mucous membrane of the vaginal-portion is remarkably reddened, its papillæ are swollen, near the os externum abraded. The parenchyma of the vaginal-portion is itself swollen. The acute endometritis often passes into the chronic. The vagina is also frequently involved.

In acute catarrhal endometritis, Schrœder says the ciliary epithelium soon disappears, the secretion of the diseased mucous membrane increases; that of the body of the uterus supplies at first a thin watery serum, which soon becomes thickened with the cast-off epithelium-cells, and later by an abundance of pus-cells, so that the discharge finally becomes whitish and opaque or purulent (*Ziemssen's Cyclopædia*, 1875). The vitreous secretion of the cervix, too, becomes turbid and purulent, and often streaked with blood.

Chronic Catarrhal Endometritis.—This is frequently a continuation of the acute form, and especially of repeated acute endometritis in cachectic persons. It is also frequent as the result of morbid deposits

or processes in the mucous membrane, as tuberculization, or from the irritation of tumors protruding into the uterine cavities.

The mucous membrane of the body of the uterus appears uniformly or in patches reddened, swollen, spongy, decidua-like, or has a granular papillary aspect; it is covered with a mucous-purulent moisture or pus. Very often, chronic catarrh consists essentially in blennorrhœa, that is, in a condition of profuse secretion of a more or less hyaline or creamy opaque mucus, from a swollen, partly pale, partly injected, dark brown or grayish pigmented membrane.

The mucous membrane of the cervix is very often, but not constantly reddened, swollen, especially on the summit of its folds. It is commonly studded with Nabothian ovules, and covered with a clear or yellow-streaked turbid mucus.

The vaginal-portion is often swollen, the mucous membrane reddened, its papillæ swollen and injected. This condition and the simultaneous presence of small cysts, give it a villous granulating appearance. And not seldom there is actual excoriation or ulceration.

Although we can only admit the word "ulceration" as describing the loss of epithelial investment in the case which forms the subject of the last chapter with some qualification, it seems impossible to discard the term "inflammation" as inapplicable. It may be described as engorgement, congestion; but if this congestion, or whatever else it may be called, produce all the effects usually attending upon inflammation, the distinction becomes too subtle to be followed out. And when it is remembered that the increased action going on, takes place in a part exposed to frequent fluxions of blood, to functional work, to accident, it is hard to imagine how it can long escape passing the imperceptible boundary which rigorous theory, rather than actuality, places between it and inflammation.

One fact may at any time be verified, which appears to lend support to the theory that inflammation is an essential factor in the case. It is the abundance of chlorides in the viscous secretion exuding from the cervix. The concentration of chlorides in inflamed tissues is an established fact. The moment nitrate of silver is allowed to touch the cervical surface bared of epithelium, a dense opaque white layer is produced, and any viscid secretion is instantly turned into a white clot characteristic of chloride of silver. The indication thus obtained of the presence of an excess of chlorides is very marked, and it appears to me that it may be explained in the way described.

What is the seat of this inflammation? I should say it is exactly that of the original traumatism sustained in labor, namely, the cervix uteri, more especially the lower part of the vaginal-portion.

So far as it concerns the case under consideration, I agree with Henry Bennet. It is essentially inflammation of the neck of the womb, subacute or chronic. I rest this conclusion more upon clinical observation than upon the anatomical grounds so much insisted upon by him. It is true that the structure of the body of the uterus differs from that of the cervix in that there is more connective tissue in the cervix, and also that the latter part is in more direct communication with the source of vascular supply. But the great reason why the cervix is more frequently the

seat of inflammation is, that it is more directly exposed to injury. At the same time I am of opinion that chronic inflammation of the body, in a less intense degree perhaps, commonly attends inflammation of the cervix. Indeed, it is hardly possible for one part to escape being involved in a process which has seized upon the other. The tissue, muscular and mucous, is continuous; the vascular supply is nearly the same. And, as a fact, we observe by the touch and sound, that in these cases there is frequently some enlargement, and increased sensitiveness of the body of the uterus.

Still, there is a striking feature in uterine pathology which lends weight to Bennet's views. The frequent sharp limitation of tubercular disease to the body of the uterus, and of cancerous disease to the cervix, seem to point to some decided distinction in the pathological proclivities of these regions. And their physiological destination is equally distinct. Both incontrovertible facts point to a difference of structure which greatly favors the idea of a difference in liability to inflammation. Another fact forcibly insisted upon by Bennet is, that treatment applied to the cervix uteri is in the majority of cases sufficient to cure the patient. This appeal to the Hippocratic maxim, "Treatment reveals the disease," is difficult to resist. But it is not unanswerable. Counter-irritants applied to one part of a diseased structure may, by derivation, or by setting up healthy nutrition in contiguous parts, cure the whole diseased organ. And I am in a position to affirm that the cure is much more quickly attained if the treatment is extended to the body of the uterus.

It appears to me that attention has been too strictly fixed upon the visible changes in the cervix and os uteri; and that, thus engrossed, the mind has been closed against the less telling evidence of changes in the body of the uterus.

The body of the uterus which formed the nidus of the embryo, which underwent the most wonderful process of development, is liable to interruption in a process which concerns the cervix in a very secondary degree. Involution especially affects the body of the uterus. It has to repair the placental seat and to restore the mucous lining.

Disorders of involution, then, principally affect the body of the uterus. Traumatism principally affects the cervix. But in some degree both processes affect the whole uterus.

Although the formative elements of a new mucous lining exist in the cavity of the uterus at the time of the separation of the placenta and decidua, it can hardly be said that a mucous membrane, comparable in development to that of the cervix, exists. Whatever changes, then, of a pathological character occur in the body of the uterus after labor must have their chief seat in the walls of the body, if we except the placental-seat. That inflammation may spread from the lining membrane to the substance of the uterine wall can scarcely be doubted; but this inflammation does not often extend deeply. The more usual origin of metritis is in the invasion of the vessels and lymphatics by foul matter; the coats of the vessels are so delicate that irritation easily spreads from them to the substance of the uterus in which they run. The veins of the uterus can scarcely be said to possess distinct coats; at least, it is difficult to isolate a venous channel from the wall in which it runs; fibre-cells, iden-

tical with those of the uterine wall, are always seen in abundance in the walls of the veins. It is easy to conceive how a tissue, permeated by channels which carry irritating matter, may become inflamed in its substance. This may be actually seen in the acute septicæmic metritis of child-bed. Collections of pus are seen in the venous channels, and the surrounding muscular structure is softened. There is evidence enough to show, apart from analogical argument, that a similar process takes place in the non-pregnant uterus.

But, especially in young women, in whom the affection is the result of menstrual suppression from cold, the inflammation may be strictly limited to the body of the uterus. The neck being less concerned in the menstrual hyperæmia, and not subject to the same physical disturbance as in married women, more often escapes.

In such cases, examination, limited to inspection through the speculum, will fail to detect the intra-uterine disease. But in most cases the cervix becomes involved at no distant period.

Endometritis is a frequent consequence of obstruction at the os internum or os externum. Hence it is not uncommon in women who have never been pregnant, and even in virgins. The contracted os externum, by impeding the discharge of the menstrual fluid and ordinary uterine mucosities, leads to congestion, irritation, and inflammation of the lining membrane of the body as well as of the cervix. Retention by valvular closure of the os internum from flexion leads to the same consequences. The cavity enlarges under the distending influence of accumulation; the retained discharges undergo decomposition, resulting in irritating matter. It is not uncommon for women subject to this affection, to describe themselves as subject to "gathering and bursting of an abscess." That is, there is a stage of accumulation of muco-purulent matter, during which the pain of distension is felt, merging in spasm or colic, the pain of expulsion; and then, expulsion effected, relief is felt. The quantity of the fluid thus collected varies, and it is difficult by direct observation to define it correctly. But there is little doubt that it amounts in some cases to an ounce or more. The condition and the symptoms resemble in many points those of dysmenorrhœa from retention. Indeed, dysmenorrhœa is often associated with it, as arising from similar mechanical causes.

The discharge occasionally becomes exceedingly offensive, has acrid properties, causing redness of the vaginal canal and vulva; and is, in all probability, capable of exciting blenorrhagia in the male.

Endometritis may occur at all ages, beginning from the outset of menstrual life down to old age.

I have already said that endometritis may be limited to a particular area of the uterine cavity, and that this area is that which was originally the seat of the placenta. In many cases the return of this area to the normal state is slow and imperfect; and for weeks and months after labor it may present a rough surface, secreting a muco-purulent discharge, cut off by a sharp line of demarcation from the smooth, perhaps healthy, mucous membrane of the rest of the cavity. In the earlier periods after labor, the uterine wall at this part is thicker, and remains more vascular than at other parts; and this comparative thickness may persist for some

considerable time. There is, in fact, imperfect involution, especially of this part of the uterus, as the first step of a condition which merges into partial endometritis and metritis.

Since the most common seat of the placenta is near the fundus, this variety of disease might be called "Fundal Endometritis." But this name has been used by Dr. Routh to describe a condition[1] which does not necessarily depend upon pregnancy. He says that part of the mucous membrane which lies between the Fallopian tubes is especially prone to inflammation. If he is correct in his intepretation of the cases he relates, he establishes the conclusion that there is an endometritis limited to this particular area, which has been confounded with general endometritis. Quoting Dr. Beck, he shows that the fundus is supplied with nerves by a branch coming from the ovary, that is, from a different source from that which supplies the lower part of the body and the neck of the womb. The symptoms are exactly those described by Dr. Gooch as belonging to the "irritable uterus." "The abdomen is painful just over the pubes. Indeed pressure here will often make the patient sick." If the sound be passed *per anum* or *per vesicam*, and the point be turned upon the fundus, pain will be produced. If passed into the uterus, there may be no pain until the point has passed the os internum, and has struck the fundus. "If it be pressed at all forcibly against the fundus, absolute agony may result, which may produce vomiting, an hysterical faint or fit, sometimes a regular epileptic fit." The disease, Dr. Routh says, is often the result of the use of intra-uterine pessaries, of retained menstruation, or the retention of mucoid discharges. Recognizing, as my own observations compel me to do, the limited endometritis of the placental seat, to which I confess to have been led more by post mortem inspections at various periods after labor, than by clinical diagnosis, I am not prepared to accept without further evidence Routh's description. I concur in the opinions expressed by Tilt and Fordyce Barker, at a discussion on the subject in the Obstetrical Society, that the symptoms relied upon are not sufficiently distinctive. As Barker pointed out, the fundus is more sensitive than other parts of the uterus. When the sound touches it, pain is almost always felt; and this whether the organ be diseased or healthy.

I am disposed to merge fundal endometritis in general endometritis.

The inflammation may be chiefly limited to the cervical cavity. To specify this form, the objectionable term *endocervicitis*, a barbarous compound of Greek and Latin, is in common use. It would be better to sacrifice conciseness, and to speak of *endometritis* of the uterine neck. This is a very common affection; and from its seat being partly within direct observation by touch and sight, it has engrossed an undue share of attention. It is the source of the most common form of leucorrhœa.

The Course, Symptoms, and Diagnosis.—The diagnosis of endometritis rests upon the subjective symptoms, the history, and the objective signs. The patient complains of pain referred to the uterus, increased by exertion, attended often by dysuria; the pelvic pain radiates to the back, and there is more or less constant lumbo-sacral heavy aching dis-

1 On Fundamental Endometritis, Obstetrical Trans., vol. xii.

tress. Headache is also frequent, and various nervous symptoms of a depressing character arise as the disease becomes chronic.

The history begins with pregnancy, with arrest of menstruation, with intra-uterine irritation or injury, as from wearing a pessary, with retention of menstrual discharge, with flexion or version; in short, the origin is in many cases the same as that of other forms of uterine inflammation. The symptoms have probably at first been acute; the uterine pain was intense, setting in with rigor, perhaps vomiting, and attended by fever. Passing into the chronic or subacute form, the pain has become less severe; it has been intermittent, brought out into exacerbations by over-exertion or by menstruation.

The objective signs are made out by palpation, by the sound and by the speculum. Palpation, vagino-abdominal or recto-abdominal, will generally establish increased weight and bulk of the uterus, and bring out pain or tenderness in the body of the uterus. The sound will commonly cause more pain than is usual on entering the healthy uterus; it will often cause a little oozing of blood. Unless there be flexion, the sound passes easily, because the orifices are almost certain to be expanded. And when the point is in the cavity, the dilatation of this part is made manifest by the freedom with which the sound can be turned round. The uterus has lost its flattened condition, having become more pear-shaped.

Diagnostic purpose being fulfilled, it is henceforth desirable to use the sound as little as possible. It is often a source of irritation. The speculum will in most cases show some amount of congestion of the vaginal-portion, perhaps abrasion or other lesion; but this is an accidental not a necessary complication.

Gosselin and Aran, describing the frequency of so-called ulcerations seen around the margin of the os uteri in chronic endometritis, affirm that they have little significance, and are generally the result of the maceration of the epithelium in the mucous secretions. As soon as the discharge lessens the ulceration heals rapidly. I must, however, remark that in most cases which follow labor, the loss of epithelium is due to the necrotic action I have described.

When chronic or subacute catarrh arises primarily, that is, without acute beginning, leucorrhœa is often the first symptom which attracts attention. Then pain on excretion follows. Dysmenorrhœa becomes more pronounced. This last symptom is the more important in women who previously had not suffered from dysmenorrhœa. There are many women in whom dysmenorrhœa may be called secondary, that is, it is acquired as a consequence of metritis or non-involution after labor.

Menorrhagia is a frequent attendant. The tumid, engorged, vascular mucous membrane easily allows blood to exude. The catamenia return in advance of the proper period, that is, every three weeks or fortnight, and last for a week or more, sometimes profusely. The blood-flow is commonly succeeded by a muco-puriform discharge; and not seldom, slight causes will determine a flow of blood in the intermenstrual periods. A common remark is that the flow returns a day or two after having apparently ceased, so that the subject hardly knows when the period is fairly at an end. Sometimes clots of dark blood "like leeches" are

voided. In one case of intense endometritis the woman passed every morning a cylindrical mass about three inches long, slimy and streaked with blood. The glands become obstructed, presenting bluish eminences; the contents retained cause cystic elevations, sometimes becoming turbid. When punctured, puriform matter may exude. It is in these cases that scarification is so useful.

Dysmenorrhœa more especially attends the catarrhal inflammation of the body of the uterus, probably because this condition is apt to involve some degree of inflammation of the uterine wall itself. The form in which dysmenorrhœa appears is uterine, that is, pain is felt shortly before and at the time of the uterine flux; it is referred to the uterus or middle of the pelvis, and radiates to the loins and sacrum.

In the milder forms of catarrh, the discharge is chiefly mucus entangling epithelial cells; it may be clear or opaque. The hypertrophied uterine glands at times pour out a profuse, even exhausting, secretion. In severer forms it is often tinged with blood. This, Bennet says, is as characteristic as is the rusty sputum of pneumonia. It is due to the intense congestion, the blood easily permeating the thin epithelial covering.

The neighboring organs are commonly somewhat disturbed. In the acute forms, even dysenteric symptoms may be produced. In the chronic forms diarrhœa is not uncommon, alternating perhaps with constipation. Diarrhœa in the acute form, however, is not alone the consequence of neighboring irritation; it is more likely to be due to septicæmia. Both in the acute and chronic forms some bladder-distress is a frequent attendant. Dysuria and frequent micturition, and sometimes cystitis, are observed.

Disorder of nutrition and of the nervous system are sure to follow sooner or later upon chronic uterine catarrh. The abnormal derivation of vascular and nervous action leaves the digestive organs imperfectly supplied; and the constant wear and tear of pain exhausts the nervous centres. Hence the appetite is impaired, capricious, difficult to stimulate. Despondency, fretfulness, sometimes hysterical symptoms harass the patient. Nausea, vomiting, gastralgia, distension of the stomach follow. The urine becomes turbid, loaded with uric acid or phosphates, and sometimes with mucus. This is especially the case in women towards middle age, with a tendency to obesity and sluggish liver.

In other cases, the discharges and the impaired nutrition entail emaciation. The face puts on a dull, languid, worn expression; the *facies uterina* becomes formed. The features fall; dark circles surround the eyes.

Acute endometritis may end in spontaneous recovery. Perhaps rest and careful regimen for a few weeks may suffice for cure. But of the accomplishment of this we cannot be certain, until one or two menstrual periods have passed by without rekindling the symptoms. The signs of cure are: the cessation of febrile movement and of local pain; the moderation of discharge, the return of the os externum uteri to its ordinary calibre; the recovery by the vaginal-portion of its epithelium-investment; and the return of the mucous membrane to its natural pink color.

Chronic endometritis, on the other hand, is a most obstinate disorder. It shows little disposition to spontaneous cure. Some observers, indeed,

doubt whether it can even be cured by art. Scanzoni throws almost equal doubt upon the curability of chronic endometritis, that he does upon that of chronic metritis. Chronic catarrh, he urges, is the almost never-failing companion of chronic parenchymatous metritis, and how shall it be healed whilst the disorders of the circulation in the walls of the organ persist? How shall the hyperæmia, swelling, and hypersecretion of the mucous membrane disappear whilst the causative disorders in the wall of the uterus persist? I have already discussed the possibility of cure of parenchymatous metritis. If this possibility be admitted, then the possibility of curing endometritis follows as a corollary.

I cannot help attributing this eminent physician's unfavorable opinion, in some measure, to his imperfect estimate of the etiological importance of constriction of the os externum uteri, and of flexion. Treatment which fails to take cognizance of these conditions must necessarily be imperfect, and will therefore often fail.

The Treatment.—The indication to begin by removing any complication, such as flexion, inflammation of the vaginal-portion or cervix, or atresia, is obvious. Indeed, the principal remedies, those to be applied to the interior of the uterus, cannot be fairly brought into use until the cervical canal is made permeable for at least a No. 8 or No. 9 catheter.

Inflammation or engorgement of the cervix must be subdued by the methods already described. And when this is done, it will sometimes be found that the signs of endometritis have disappeared. Whether it be by derivation or by other agency, curing inflammation of the cervix will sometimes cure inflammation of the body too. But, although this is an essential part of the treatment, it ought not to be trusted to alone. For, if it occasionally is sufficient to cure, yet the process being indirect is slow and tedious. It is remarkable and gratifying to observe, in some cases, how quickly a long-standing case of endometritis is cured by direct treatment.

In the acute stage, which is most likely complicated with metritis proper, the application of twenty leeches to the hypogastrium, fomentations, sedatives, salines, will be necessary. In the chronic stage, the cure will depend greatly upon the judicious use of intra-uterine remedies. The solid nitrate of silver, which acts so well elsewhere, is of signal service in this case. The sulphate of zinc I have found almost equally beneficial; and it has the advantage of being safer. Tincture of iodine is perhaps the most effective and safe. Carbolic acid, chromic acid, chlorate of potash, perchloride and persulphate of iron, nitric acid, acetic acid, have all been extolled. These remedies are best applied either solid or in the form of ointment, or as liquid carried on swabs. The practice of injecting liquids into the uterine cavity offers no marked advantages over the methods described, and the attendant objections are so serious that it is desirable to discuss the subject of intra-uterine medication with special care.

THE VARIOUS MODES OF APPLYING REMEDIES TO THE INTERNAL SURFACE OF THE UTERUS.

The treatment of morbid conditions of the body of the uterus by *intra-uterine injections* is a subject that calls for earnest discussion on account of its utility and its dangers. If we treat morbid conditions of the eye, mouth, throat, larynx, bladder, rectum, and vagina by injections with such manifest advantage that we have come to look upon this method as in many cases indispensable, it seems reasonable to expect equal advantage from its action on the mucous membrane of the cavity of the uterus. Experience amply justifies this expectation. Topical applications to the diseased mucous membrane are in many cases essential to cure. But in the form of injected fluids they are not free from danger. Almost every author who has written upon the subject, refers to cases of accidents, ranging from severe pain to shock, collapse, metritis, perimetritis, and death. It is desirable to refer to some of these cases which best illustrate the conditions of danger.

Henry Bennet relates a case which occurred under Jobert. A girl, aged twenty-four, had a large fibroid of the uterus. Jobert made an astringent injection into the cavity of the neck. Almost immediately there arose shiverings, agonizing pains in the abdomen, then fever, then death in a few days from metro-peritonitis. Bennet performed the autopsy. He found nothing besides the marks of peritonitis.

The following history was supplied to me by Dr. Hermann, assistant obstetric physician to the London Hospital, and the account of the autopsy is by Dr. Sutton. A woman, aged forty-eight, had had six children and five abortions. For eighteen months she had suffered from menorrhagia. On admission there was decided retroflexion of the uterus. An injection of perchloride of iron, in the proportion of one part of the saturated solution to six of water, was used. About half a pint of this was injected through a double-channel catheter attached to a Higginson's syringe, the patient lying on her left side. The fluid appeared to flow out as fast as it entered. The catheter was kept half-rotated, so as to hold the uterus in its proper axis during the injection. The os uteri had been well dilated. Immediately after the operation the patient complained of intense pain in the abdomen. In the evening the pain was worse, and she had vomited. The pulse and temperature rose, and she died in collapse fifty-eight hours after the injection. In the peritoneal cavity was found a quantity of blackish-green opaque puriform fluid. Much of the peritoneum covering the intestines around the uterus was of a black color. There was a quantity of pus in the pelvis. The left Fallopian tube was enlarged, and the vessels on its peritoneal surface highly injected. The outer half of the tube was much dilated, and filled with dirty, pus-like fluid. There was marked retroflexion of the uterus. Dr. Sutton's opinion was that the fatal peritonitis was caused by the iron solution escaping through the Fallopian tube into the peritoneal cavity.

Dr. V. Haselberg relates an instructive case.[1] A *puella publica*, having had an abortion six months before, came under treatment with ante-

[1] Monatsschrift für Geburtskunde, 1869.