The **treatment** for this condition must be stimulant as well as anodyne. Opium and whisky or wine should be given, as freely as in any other condition of positive debility or exhaustion.

For *local* treatment of burns, I believe that nothing is better than *lime-water and oil*, equal parts (either linseed, olive, or lard oil), on cotton wadding, covered with oiled silk. Other remedies often used are dry cotton (which sticks too close in deep burns), glycerin, rye-meal, starch powder, fresh lard, carbolic acid,[1] and molasses. To exclude the air seems to be the main indication.

UNCLASSIFIED AFFECTIONS.

AMENORRHŒA.

A few words seem appropriate here upon some of those affections of the sexual system which every practitioner must often meet with. Their full discussion belongs to books of a different kind.

Amenorrhœa, or suppression of the menstrual discharge in women, may be either an *interruption* of it during its occurrence, or its habitual *non-appearance*. The former is commonly the result of cold and wet, or of some nervous shock, to which the patient is exposed during the menstrual period.

Habitual amenorrhœa may occur with *plethora*, from disturbance of ovarian and uterine functions, or with *anæmia* and debility, or as a secondary effect of chronic disease, *e. g.*, phthisis. The greater number of cases is met with in anæmic females; but the opposite state is not uncommon. Vicarious hemorrhages from the lungs, stomach, etc., sometimes accompany it.

As bearing upon the **treatment** of amenorrhœa, the question always comes up—is the suppression of the menstrual flow the *cause* of other symptoms or morbid effects, or is the amenorrhœa itself the *effect* of a morbid condition, the removal of which will restore this arrested function? It is to be said in reply, that sometimes the one and sometimes the other may be the case. In amenorrhœa with *plethora*, generally the interruption of menstruation may be found to be a primary, though perhaps not the sole, cause of disturbance of the system. In *anæmic* amenorrhœa, most frequently the constitutional state is primary, and the restoration of general strength will be attended by the spontaneous return of the function.

Practically, then, we must, in any case, inquire into the general condition and history of the patient. If there is headache, increased by stooping, with a flushed face and full strong pulse, the patient having previously been *vigorous* in health, taking blood from the lumbar region by cups, or, in clear cases, from a vein in the arm by the lancet, is indicated. Also purgatives; at first, in a sudden attack, senna, or, if much heat of the system exist, citrate or sulphate of magnesium; afterwards, when the amenorrhœa is obstinate, aloes. Hot mustard foot-baths, or warm hip-baths, and warm poultices to the breasts, every night, should be used in a case of sudden suppression of menstruation in the midst of its period. Tincture of aloes and myrrh is a favorite domestic emmenagogue; a teaspoonful twice or thrice daily, in hot water. Black hellebore, savin, seneka, etc., are also resorted to for similar action; but all emmenagogues are more uncertain even than diuretics.

[1] In solution, ℥ij in Oj of water; or 1 part to 7 parts of glycerin; or else Lister's "carbolic oil," 1 ounce of carbolic acid in a pint of olive or linseed oil.

In many cases of amenorrhœa, a delicate and, in some, a difficult question is, as to the possibility of the (physiologically) normal cause of pregnancy being present to account for it. Most of all may this difficulty present, of course, in young single women, who may, unfortunately, have reason for concealment. Apart from the very clear ethical principle that a physician has no moral right to aid, in any way whatever, in producing an abortion, active emmenagogue treatment in the pregnant state is unsafe for the health of the subject of it herself. *Medicine* will fail to cause abortion in eight or nine cases in ten, unless it be so used as to produce a serious, often dangerous, effect upon the system of the patient.

When we *suspect* pregnancy, then, mild measures only are in place—waiting for time to develop the nature of the case in full. *Anæmic* amenorrhœa requires tonics; above all, *iron*. Other medicinal and hygienic roborant agencies may also be called in. Aloes, in small doses, repeated daily [F. 201, 202], occasional or periodical hip-baths, foot-baths, and breast-poultices, especially near the time when the menstrual flow should occur—may in many cases be superadded. *Strychnia*, in one-thirtieth of a grain doses, is a favorite tonic in amenorrhœa with some practitioners. *Galvanism* or *statical electricity* (of the friction-machine) is much resorted to by others. The spinal and pelvic regions should be the seats of application.

DYSMENORRHŒA.

Painful menstruation is habitual with some women for years together. Pregnancy not unfrequently cures the habit. The affection seems to be of two kinds or origins: 1, functional or **physiological,** and 2, **mechanical** dysmenorrhœa. With the former, disorder of innervation and circulation occurs; even the ovaries may participate in this. I attended one woman in a number of attacks of monthly ovarian irritation (ovarian colic) of extreme violence and suffering, with fever. Ordinarily, before menstruation begins, the subject of functional dysmenorrhœa feels ill, with pain in the back, perhaps headache, followed by pains, almost like labor-pains of the first stage, in the womb. That organ becomes palpably swollen and heavy, its pain being somewhat assuaged by compression by the hand through the abdominal wall. When free discharge comes on, relief is obtained.

The symptoms of mechanical dysmenorrhœa are not always strikingly different, but it is a more local affection. The direct cause of it is obstruction at the *os* or *cervix* uteri; the external or internal *os* usually, if constriction be the trouble; in the neck, when anteversion, retroversion, or lateral flexion produces it. On the indication of this causation, Dr. Simpson, of Edinburgh, some

years since introduced the practice of *dilatation* of the os and cervix for the cure not only of dysmenorrhœa, but of sterility, dependent upon the same obstruction. *A sponge-tent* was used [F. 232] ; sometimes, more lately, the *sea-tangle* (laminaria digitata) instead. Dr. W. L. Atlee (1861) introduced a *uterine* dilator,[1] which has been found to act well in many cases. Dr. Ellwood Wilson and Dr. Molesworth have made large use of similar instruments. Simpson and others, however, have preferred *incising* the neck of the uterus with a hysterotome ; asserting that this is more certain and even less dangerous. Much discussion on this subject has transpired in the journals. I must refer upon it to works on special surgery and gynæcology ; particularly the work of Dr. Marion Sims. It is observable, however, that Dr. H. R. Storer, the distinguished obstetrician of Boston, adheres to careful dilatation instead of incision. Drs. Tilt and H. Bennett, of London, also object to frequent hysterotomy.

Whatever the cause of dysmenorrhœa in any case, the subject of it should always avoid being much on her feet for a day or two before her monthly time ; and should go to bed when the pain begins. Cloths wrung out of hot water, or spirits and hot water, may be placed upon the abdomen, and renewed as they cool. Internally, spirits of camphor, with compound spirit of lavender and hot water (sweetened to taste) may be given [F. 203] ; or if not relieved, paregoric in teaspoonful doses. Dr. T. Addis Emmet advises large vaginal injections of hot water. The advantage of avoiding much exercise or fatigue just before the time of the expected menses ought to be impressed upon the patient. No medicine appears to have any important *prophylactic* effect ; unless it be iron in anæmic patients.

MENORRHAGIA.

Excessive menstruation may be of two kinds : 1, its occurrence too often ; 2, too great an amount or continuance of the discharge. Both very often occur together. Causes of menorrhagia are—general relaxation of system ; over-excitement of the genital apparatus ; thinness of the blood, hemorrhagic diathesis ; and overfatigue, especially on the feet, promoting a descent of blood toward the pelvic organs about the time of menstruation. Ulceration, cancer, or tumors of the uterus, as well as abortion and *placenta prævia*, cause uterine hemorrhage, not properly to be called menorrhagia.

This affection is much most common in the anæmic. Rest, iron, good diet, and astringents, internally and sometimes locally, are the remedies for it. Tincture of chloride of iron is, here, the favorite chalybeate. It may be given through the interval. During the attack, ammonio-ferric alum, in five-grain doses, may be administered ; or tannic or gallic acid, three to five grains several times daily. The patient must be kept still upon her back till the flow is controlled. Sometimes cold wet cloths (for a serious hemorrhage) have to be put upon the abdomen ; or an ice-water sponge, or half a lemon, or a syringeful of tannic acid

[1] See American Journ. Med. Sciences, April, 1871.

solution, or of solution of tinct. ferri chlorid. (f℥ss in f℥viij) may be thrown into the vagina. Dr. Wooster, of California, reports good results with injections of a solution of chromic acid ; fifteen grains in a fluidrachm of hot water, passed through a gum catheter, carried up to the fundus.[1] Dr. Barnes advises that, at the time of an injection into the uterus, an assistant should grasp that organ through the abdomen ; to lessen the danger of the escape of the fluid through the Fallopian tubes. Plugging, with a tampon of cotton, lint, or sponge,[2] in a few instances may have to be resorted to. In every case of severe or protracted menorrhagia, the practitioner must endeavor to be sure whether or not any malignant or other organic affection of the uterus is present.

LEUCORRHŒA.

Synonyms.—*Fluor Albus; the Whites.*—This is quite a common trouble of women. The mucous discharge may be either from the vagina, from the cervix, or from the uterine cavity. When from the glands of the neck of the uterus, it is apt to be glairy, like the white of an egg. Irritation of the organs, followed by relaxation, is its general cause ; but, often, relaxation alone seems capable of producing it. Procidentia or prolapsus uteri is a frequent source of it ; the descended uterus pressing upon the vaginal walls, causing morbid increase of secretion and exhalation from one or both.

In **treatment** of leucorrhœa, tonics are often required ; iron, bitters, etc. Also *astringents*, by the mouth and locally ; those mentioned for menorrhagia will apply here also, but usually in less strength, for a longer time [F. 204, 205]. If prolapsus or procidentia exist, I believe that a well-adapted pessary (gutta percha or India-rubber *ring*, or *double horseshoe* of similar *light* material), will in a majority of cases do good service.

IRRITABLE UTERUS.

This consists of a permanent and painful sensibility of the womb, especially of its neck ; often accompanied by increased frequency of pulse, a dry, hot skin, and generally, in protracted cases, gastric and renal derangement. This disease commonly occurs in the middle period of life, though it is sometimes met with in early youth.

The *local* symptoms are pain in the lumbar and sacral regions extending down the thigh to the knee, and around the brim of the pelvis to the lowest part of the abdomen. There are also some erratic pains in the thorax and loins. The character of the pain is that of *soreness;* slight pressure relieves it, but it is aggravated by rough handling ; sometimes it is spasmodic, like that of abortion.

The pain is increased by excitement of any kind, by exercise, and sometimes by standing. Straining, either in defecation or urination, constipation, flatulence, and diarrhœa will aggravate it.

[1] Dr. Emmet credits Dr. Sims with the introduction of chromic acid as a local remedy in uterine diseases. Its use requires caution.

[2] Dr. T. E. Beesley contrived a light *metallic* conical plug or cork for the vagina ; to be kept in place by a bandage. Gutta-percha might be adapted to the same purpose.

A free vaginal examination may prove the uterus to be either displaced or engorged, but not altered in form, size, or density; extremely painful to the touch in the body as well as in the neck.

Causes.—Among the predisposing causes may be placed, injudicious education, fashionable life, prolonged lactation, and temperament. Among the exciting causes, bodily exertion during menstruation, astringent injections, abortions, displacements, and sudden arrest of the menses in any way.

Diagnosis.—From neuralgic dysmenorrhœa, by the constancy of the pain. From acute inflammation of the cervix, by the absence of heat, swelling, and throbbing; by the absence of discharges, and by the slight changes of the cervix compared with the amount of suffering.

Pathology.—Gooch considers it a permanently painful condition of the uterus, neither accompanied by nor tending to produce change in structure. Ashwell regards it as a modified inflammation, or at least closely allied to inflammation or congestion. Thomas names it "areolar hyperplasia," on account of the increased formation of areolar or connective tissue commonly occurring in its course. This term omits, however, the recognition of the "irritability" which gave occasion for the name preferred for this affection by Hodge and others.

Treatment.—Two indications present themselves, viz.: 1. To mitigate local suffering; 2. To sustain and improve the general health. The first indication will be fulfilled by the use of anodynes, either by the mouth or rectum, or applied directly to the uterus itself; by the application of the nitrate of silver, and by anointing the cervix with anodyne unguents. The second indication, by rest, exercise in a recumbent posture, or, in some cases, on foot or horseback; tonics, nutritious food, cold bath or the douche, and cheerful society. Scarifications of the neck of the uterus are highly recommended by some authors, especially when there is congestion. The introduction of a pessary is often followed by marked relief, if there be any descent.

Ulcers of the Uterus.—Much discussion has occurred as to the fitness of the application of the term *ulcer* to such "granular degenerations, erosions, or abrasions" as are observed about the *os* and *cervix* of the uterus. The term is, however, thus applied by most gynæcologists. Thomas describes six varieties of cervical ulcerations: 1. Granular; 2. Follicular; 3. Inflammatory; 4. Syphilitic; 5. Corroding; 6. Cancerous.

Of these, the *granular* ulceration of the vaginal (exterior) surface of the cervix is the most frequent. Its symptoms are sometimes slight, in other cases quite grave. It is produced by all causes of uterine irritation or inflammation; as *displacements; sexual abuses; pressure; injuries during parturition.*

In a serious case, the symptoms may be as follows: *leucorrhœa*, sometimes bloody or purulent; *pain* and *bloody discharge after coition; menorrhagia; pain on locomotion;* constant *pain in the back and loins; general debility and hysterical disorder.*

Examination by means of the *vaginal touch* and the *speculum* will make certain the presence or absence of ulceration. "The cervix, more especially near the os, is seen to be covered by a mass

of pus, which being removed lays bare an intensely red, granular, hemorrhagic-looking space of greater or less extent, closely resembling the inner surface of the eyelids when affected by granular degeneration. The diseased surface does not appear depressed below, but is sometimes even elevated above the surrounding mucous membrane." (Thomas.)

Treatment. The ulcer of the uterine cervix is to be regarded as the sign and effect of a morbid condition of the uterus itself. *Endometritis* (inflammation of the lining membrane of the uterus) or *congestion* of the body or neck of the womb, may exist and require treatment. Or, a *displacement* may be causing continual irritation, by friction of the os or cervix against the floor of the pelvis.

For the ulcer itself, authorities advise the application of *caustics*, especially the solid nitrate of silver; and *astringents*, as the "styptic colloid" of Richardson. The latter is essentially a strong solution of tannic acid in collodion. The speculum is required for the effectual localization of the effect of caustic, which should not be used without care and observation of its effects. Once a week will generally be sufficient for the application.

Vaginal *suppositories* are sometimes employed; consisting of *tannin, oxide of zinc, alum, extract of belladonna,* or *opium,* made up with starch or gum, glycerin or cacao-butter, to the proper size and shape. Astringent *washes,* also, are serviceable; used once or twice every day, consisting of alum, sulphate of zinc, or tannin, with glycerin and tepid or warm water. A drachm of sulphate of zinc, or two drachms of alum or tannin, with an ounce of glycerin and a gallon of water, will be strong enough.

For the description and treatment of other varieties of ulcer of the uterus, we must refer the student to special works on Gynæcology.

UTERINE TUMORS.

Morbid growths may occur on the *exterior* or *interior* surfaces of the uterus, or in the substance of its walls. A simple classification of them is into *fibroid* tumors (myo-fibromata), *fibro-cystic* tumors (cysto-fibromata), uterine *polypi*, and *cancers* of the uterus.

Fibroid tumors are the most frequent. Generally there is but one developed in the same uterus; commonly in the body or fundus. Occasionally several occur at a time, and attain a great size. The tissue of the tumor is firm and tough, creaking when cut. Microscopically, it consists of "long, fine fibres, generally united in bundles; of fusiform fibre-cells, analogous to fibro-plastic elements; and of round or elliptic granules of small size; the whole being bound together by fine intercellular substance." All of these are derived, by modification, from the normal tissues of the womb; chiefly the connective tissue, but in part the smooth muscular tissue also. The negro race is especially liable to fibroid tumors of the uterus. They occur most frequently between the ages of thirty and forty-five; especially in sterile women.

Symptoms.—These vary, on account of the *complications* and *secondary effects* of morbid enlargements or growths of the uterus.

There may be excessive menstrual flow (menorrhagia); intermediate hemorrhage (metrorrhagia); irritability of the bladder and lower bowels; pain in the pelvic region; uterine tenesmus, or bearing-down pains; leucorrhœa; dysmenorrhœa; and signs of pressure on the crural vessels and nerves.

Physical Signs.—These may require the use of *vaginal touch*, *bimanual palpation* through the vagina and abdominal walls, *recto-vaginal* palpation, and the *speculum*; sometimes, the dilatation of the os and cervix uteri with tents.

By such means we may discriminate between fibroid tumor of the uterus and anteflexion or retroflexion; ovarian tumors; fecal accumulation in the large intestine; pelvic hæmatocele (bloody tumor from hemorrhage within the pelvis); peri-uterine cellulitis (inflammation of the areolar or connective tissue around the uterus); and pelvic abscess.

Treatment.—Spontaneous cure of fibroid tumors sometimes occurs by *absorption*, *expulsion*, *sloughing*, or *calcareous degeneration*. Much more frequently, when they have obtained a moderate size, they remain stationary until the period of the cessation of the menses; after which they undergo slow atrophy. *Palliation* of their symptomatic effect is, in most cases, the only proper treatment. Sometimes life is threatened by irritation and exhaustion. Then an operation for the removal of the tumor is justified, if it appear practicable. This may also be proper when the enlargement is so situated as to be easily removed, without much injury to the parts involved.

The methods of treatment resorted to for the cure of uterine fibroid tumors are these: *absorption; excision; écrasement; enucleation; sloughing; incision; gastrotomy.*

Absorption has been attempted by the internal or hypodermic administration of medicines; as chlorate of potassium, iodine, iodide and bromide of potassium, ergotin, and several mineral waters. Although successful results have been asserted, the dependence of the recovery upon the medicinal agent used remains in doubt.

Excision, by means of a knife or scissors, may be practised when a small fibroid projects into the uterine cavity, so as to be within reach after dilatation of the cervix by tents.

Écrasement, *i. e.*, cutting away at the base by the écraseur or chain-saw of Chassaignac, is to be preferred in certain cases to excision.

Braxton Hicks's *wire-rope* écraseur will sometimes answer still better for the same purpose. A very large tumor, filling the vagina, may be drawn down by obstetric forceps and extruded, so as to be cut away by the knife or écraseur; or it may, *in situ*, be cut away piece by piece to the base. It is only when the tumor is small and near the cervix that excision is suitable; and the use of the écraseur requires that the attachment should be smaller than the body of the tumor.

Enucleation is an operation including (after dilatation of the cervix by tents) the making of one or more incisions into the body of the tumor, and then, by introducing the finger or a blunt instrument, detaching it forcibly from its base. This is attended by considerable danger, especially of peritonitis and pyæmia. Dr. West reports a mortality of 14 cases out of 28 operated upon in this manner.

Sloughing has been sometimes artificially induced by "gouging" the tumor; *i. e.*, cutting a deep circular hole in it, and filling it with oiled lint. This is certainly a dangerous procedure, seldom justifiable in practice.

Incision is performed in some cases, where removal is not practicable; with the view of impeding the nutrition and growth of the tumor. A bistoury or scissors may be used; and the operation may be repeated several times. Although blood flows freely at the time, it often happens that the tendency to hemorrhage is diminished by the change produced in the tumor. This is a much less violent and dangerous practice than gouging or enucleation.

Gastrotomy is the opening of the abdomen by the knife for the removal of a tumor. It is so serious an operation that few surgeons will undertake it for uterine fibroids. Extirpation of the uterus itself has been performed, with the result of 28 deaths in 35 cases. Gastrotomy for the excision of fibroid tumors from the uterus has met with about 1 success in 4 cases. The method of procedure is the same as in ovariotomy. Its perils are, 1, shock; 2, hemorrhage; 3, peritonitis; 4, septicæmia or pyæmia.

Fibro-cystic tumors are formed by the degeneration of solid tumors, so as to render their contents partly or wholly fluid. This may occur with malignant as well as benign formations. It is, however, uncommon. The *diagnosis* of such tumors requires their discrimination from *pregnancy*, *ovarian cysts*, and ordinary fibroids of the uterus. Their treatment should be conducted upon precisely the same principles as that of the latter.

Polypi are tumors covered by the mucous membrane of the womb, and attached to it by a stem or *pedicle*. Thomas mentions four kinds; *cellular*, *glandular*, *fibrous*, and *fibrinous* polypi.

The *symptoms* attending uterine polypus are of two kinds; *irritative* to the uterus and thus disturbing to the general system, and *obstructive* to the process of menstruation. The health of the patient is gradually lowered, so that, without violent disturbance, life is apt to be shortened through debility and anæmia.

Treatment.—Palliation of the symptoms is often possible; by appropriate support of the uterus by means of a pessary; keeping the patient in bed at the time of menstruation, to prevent excessive loss of blood, to which she is rendered liable by the presence of the polypus; strengthening the system by tonics and good diet, and by the avoidance of severe fatigue; and the introduction into the vagina at night (after syringing with tepid water), of a suppository of tannin and cacao-butter; with the addition to it of one or two grains of opium when there is considerable pain.

Curative treatment requires a surgical operation; which is not to be resorted to in every case; having danger, even to life, attending it. An intra-uterine polypus, above the *os internum*, is the most serious to interfere with. *Vaginal* polypi may be very safely removed. The methods of operation are—excision, torsion, ligation, écrasement, and galvano-cautery.

Excision is performed, according to circumstances, either with a

knife, scissors, or curved "polyptome;" *torsion*, by seizing the tumor with forceps and twisting it off at the neck; *ligation* is tedious, and is now seldom resorted to; the *écraseur* and the *galvano-caustic* wire are preferred, for expedition and safety (in skilful hands) in some of the more difficult cases.

Cancer of the uterus presents a general resemblance to cancer of other organs. It is more frequent in the uterus than in any other part of the body. Its characteristic is malignancy; *i. e.*, tendency to indefinite growth, destructive changes, involvement of neighboring parts, constitutional depravation, and disposition to return after surgical removal. Some pathologists distinguish *epithelioma* or *cancroid* from *carcinoma* or true cancer; yet the former is not devoid of malignancy, though exhibiting it often in less positive degree. Carcinoma of the uterus is divisible into three kinds: *scirrhus*, *colloid*, and *encephaloid*. The *cervix* is the part of the uterus most often attacked. The *scirrhous* form or hard cancer is rare; the *colloid* or jelly-like form less so; the *encephaloid* or soft cancer is the most frequent. The duration of cancer of the womb, from its beginning until death, varies from a few months to several years; average rather less than two years. It seldom occurs before middle life; the greatest number of cases being met with between 40 and 50 years of age.

Symptoms.—These are as follows: Pain in the pelvic region; tenderness; menorrhagia; leucorrhœa, with offensive odor; dark, bloody, grumous discharge; progressive general debility; and sallow, cachectic appearance. Pain is not always severe; in a few cases it is absent.

Physical Signs.—By vaginal touch, the morbid character or destruction of the uterine tissue may be perceived. If a very small portion can be removed without much disturbance, it may be examined with the microscope. The characters of the discharge are always very important in the diagnosis. Care is needful to distinguish cancer from *papillary growth* upon the cervix uteri; *polypus; fibroid tumor; bleeding ulcer;* and *syphilitic ulcer.*

Treatment.—As stated by Professor Thomas, the indications are—to destroy or remove the cancer; to check hemorrhage; to relieve suffering; to correct fetor; and to improve or support the general strength.

Amputation of the neck of the uterus is the only operation that affords much hope; and this only when, at an early stage of the disease, it can be made to include all of the cancerous formation. Caustics have been very often used, but without encouraging success, in any form but that of cancroid or *epithelioma.*

Palliative measures are to be resorted to upon general principles, according to the indications above mentioned. Pain will often require opiates, by the mouth, vagina, or rectum. Fetor may be corrected by the use of washes, containing dilute solutions of carbolic acid, chlorinated soda, permanganate of potassium, etc. All but the last named may be made with glycerin as well as with water. The constitutional strength should be supported by generous diet, milk, beef-tea, and, in appropriate cases, stimulants.

SPERMATORRHŒA.

Referring the reader for a full consideration of this subject to Bartholow,[1] Acton, or other authorities, the main facts only will be here stated. In continent men of full health, an involuntary seminal discharge during sleep once in two or three weeks is common; and is then so innocent as to be regarded by many as physiological or normal. More frequent emissions are abnormal, in proportion to their frequency; and may cause much loss of strength. While hemorrhoids, worms in the bowels, etc., may occasionally promote this, the cause of actually excessive spermatorrhœa, in ninety-nine cases (at least) in a hundred, must be believed to be self-abuse. The cure of this habit is, not always at once, but almost certainly in the end, the cure of the resulting spermatorrhœa. The disastrous effects so obvious in many cases are due first to the vicious habit, and secondarily only, to the involuntary discharges.

In pathology, Lallemand has, for a long time, been allowed to impose upon the medical mind his opinion that irritation or inflammation of the prostatic portion of the urethra is the general or universal immediate cause of spermatorrhœa. As Bartholow more correctly states, this is quite exceptional. More largely by far, spermatorrhœa shows itself to be a cerebro-spinal *neurosis.* That is, the error is not in the local structure of the urethra, but in the morbid nervous excitability; which renews too often the sexual orgasm, somewhat after the manner of an eclampsia or convulsion, as a reflex act.

It is to be remembered that, in a relaxed state of the system, especially in those whose genital organs have been more or less abused in natural or unnatural ways, sometimes a *mucous* discharge of small amount may occur from the urethra, like the leucorrhœa of the female. Only the presence of spermatozoa, visible with the microscope, *proves* seminal loss.

What are we to do, then, when consulted by a patient for spermatorrhœa? Ascertain the frequency of the discharges, the state of his general health, and, if possible, his habits. Relieve unwarranted alarm by stating the innocence of *bi-weekly spontaneous* evacuation of the seminal ducts; whose effect is quite different from that of the unnatural violence and mechanical irritation of self-indulgence. Impress upon him, whether the habit be acknowledged or not, that his danger lies in it, and that his cure depends upon entire and permanent abstinence.

To promote this, all *moral* impressions must be brought to bear upon his mind, as well as prudential considerations. Active muscular exercise in the open air (in proportion to strength) should be encouraged, even to fatigue. He should eat very light suppers, sleep under light clothes, rise early, and bathe often in cool or cold water. The shower-bath will do very well. Iron is required in really weak cases, as a tonic. The diet should be nourishing, but not stimulant; avoiding high seasoning, and alcoholic beverages.

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[1] On Spermatorrhœa, etc. By Roberts Bartholow, A.M., M.D., etc.

Of all drugs said to be anaphrodisiac (*i. e.*, capable of diminishing or quelling sexual appetite) I believe that none have any available power except lupulin and bromide of potassium. The dose of the former for this purpose is ten grains, at bedtime. Bromide of potassium is, however, the medicine of the day for *reducing excitability* of organs subject to reflex action. Twenty grains at bedtime, every night, will, according to my observation in practice, make a great difference in those who are troubled with frequent nocturnal discharges. *Hydrate of chloral* is reported, by Dr. J. B. Bradbury,[1] to have been curative, in two cases; fifteen grains having been given every night. Trousseau commended *belladonna* for the same indication.

Lallemand's *porte-caustique* finds justification only upon his theory of urethral or prostatic disease being the cause of spermatorrhœa. Without feeling warranted in denying the occasional existence of such a lesion, and the possible benefit of limited cauterization in such an exceptional case, I am not able to believe in its frequency or great importance.

Acton,[2] however, has confidence in cauterization in a number of cases. He employs a *solution* of nitrate of silver, ten grains to the ounce of water; which he injects into the urethra by means of an instrument consisting of a glass syringe attached to a tube like a short catheter. The part to be acted upon is the irritable membranous portion of the urethra. Before using the caustic the patient should empty the bladder. The pain of the application is considerable. After the operation, Acton advises a copaiba capsule every eight hours, for two or three days; also, that the patient drink as little water as possible, and avoid passing urine as long as he can. After once urinating, he is allowed to drink watery fluids as usual. The scalding and oozing of blood gradually disappear.

Mechanical means are sometimes employed to prevent nocturnal emissions; *e. g.*, a light metallic ring to surround the penis, having teeth projecting inwards; so that erection awakes the patient. In bad cases, where epilepsy, insanity, or extreme general exhaustion has followed a seemingly incurable habit of self-abuse, circumcision would really seem to be justifiable; more so, surely, than the more serious and dangerous operation of castration. Baker Brown's analogous operation to remove "peripheral irritation" as a cause of grave nervous maladies in the other sex, by excision of the clitoris, has met with very decided opposition, from no less an authority than Dr. Charles West, of London, as well as from others.

As signs of waste of substance and vigor by seminal losses, we find mentioned, pallor, with dark lines under the eyes; inability to look any one in the face; cold, moist hands; frequent flushing of the countenance; aversion to society. But these symptoms of general and nervous debility may all exist without being thus accounted for.

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1 Brit. Med. Journal, April 8, 1871.
2 On the Reproductive Organs, Phila. ed., p. 243.

WORMS—ENTOZOA.

Helminthology, the study of worms, has assumed of late a very considerable importance in connection with medicine. About thirty entozoa inhabit different parts of the body of man. They have been generally classified as *Cœlelmintha* or hollow worms, and *Sterelmintha* or solid worms, *i. e.*, without any well-defined alimentary cavity. Broad or flat worms, *Platelmia*, and thread-like or cord-shaped worms, *Nematelmia*, constitute another arrangement. Of the flat worms, some are *Cestoid*, or ribbon-like; others *Trematoid*, or fluke-like. The most important ones are enumerated in the following table:—

Cestoid Worms:

Mature: Tænia solium; Tænia echinococcus; Tænia mediocanellata; Bothriocephalus latus.
Immature: Cysticercus cellulosæ; Cysticercus t. mediocanellatæ; Echinococcus hominis.

Trematode Worms:

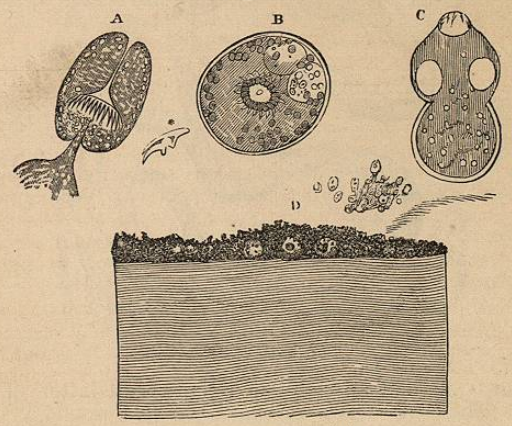
Distoma hepaticum (fasciola hepatica); Bilharzia hematobia; Distoma ophthalmobium; Tetrastoma renale.

Nematoid Worms:

Ascaris lumbricoides; Sclerostoma duodenale;
Trichocephalus dispar; Filaria medinensis;
Oxyuris (ascaris) vermicularis; Strongylus gigas;
Trichina spiralis.

Most curious are the transformations which some of these parasites undergo. Pallas, 1776, stated that all cystic worms were

Fig. 96.



Echinococcus hominis.

forms of a tapeworm. Steenstrup, in 1842, discovered the "alternation of generations" in some small aquatic worms, *cercariæ*.