depending upon some disturbance at the prostatic sinus. There may be urethral pains independent of erection or urination, sometimes severe in character—perhaps paroxysmal—and known as urethral neuralgia.[1] These different kinds of pains disappear, as a rule, in a few weeks or months. No treatment, except the observance of urethral hygiene, seems to be of much service. If they persist, there is probably some lesion of the canal, even although there be no discharge. Where there is no lesion, a resumpfion of the physiological exercise of the organ tends greatly to reduce the abnormal sensibility of the urethra. The judicious use of steel sounds at intervals, and the local employment of electricity, seem to hasten a cure. Where the trouble persists, a careful search should be made for stricture. The following case illustrates this necessity:

Case XIV.—An unmarried gentleman of twenty-two complains of "burning in the channel just where it enters the body." It comes on at 10 A. M., and continues more or less constantly throughout the day, except just after eating and when the attention is distracted by full and absorbing occupation. Five months previously he had gonorrhœa, for which he took injections so strong as to cause him "pain for hours afterward;" then he took "capsules," and got well in about a month. A month later, after drinking beer, he got a relapse, attended by "lumpy feelings" around the anus "like piles." This feeling was shortly followed by the "burning," the discharge having been arrested by capsules and injections, but the neuralgia continuing. He is troubled by sexual desires and frequent erections. Steel sounds had been passed by his physician without benefit. On exploration, the meatus admitted No. 15, but a bulbous bougie detected a linear stricture at three and a half inches, admitting only No. 13. This stricture had not been suspected. It proved very resilient, but the neuralgia got entirely well after dilatation. This patient had a curious reflex symptom—namely, distinct soreness of the mammæ, without structural change. This also got well as the urethra improved.

A condition of irritability of the neck of the bladder is sometimes left behind by gonorrhœa, attended by frequent desire to urinate, and sometimes a spasmodic action of the detrusor during micturition (neuralgia of the vesical neck). The urethra sometimes remains inelastic, causing a little dribbling. Both of the above sequelæ are overcome by hygiene and the steel sound.

Castelnau[2] mentions a singular condition of prostatic and urethral anæsthesia—the patient having no orgasm, and being unconscious of the passage of semen—left behind by gonorrhœa, and coinciding with an inflammatory engorgement of the urethra. The normal sensation returned after several months.

Various other unimportant functional troubles have been mentioned as sequelæ of gonorrhœa.

[1] The disease formerly known as "*dry gonorrhœa*" is simply urethral neuralgia, coming on alone without any antecedent gonorrhœa—the canal not being inflamed, nor the malady, in any sense, a gonorrhœa.

[2] "Observation de Blennorrhagie suivie de Douleurs et d'Abolition de la Sensation agréable pendant le Coit" (Ann. des Mal. de la Peau et de la Syph.), 1844.

CHAPTER IV.

COMPLICATIONS OF GONORRHŒA.

Folliculitis.—Inflammation of Lacuna Magna.—Cowperitis.—Peri-urethritis.—Adenitis.—Lymphitis.—Gonorrhœal Rheumatism; Hydrarthrosis, Inflammatory; affecting Sheaths of Tendons; Bursæ.—Diagnostic Table of Simple and Gonorrhœal Rheumatism.—Gonorrhœal Ophthalmia.—Gonorrhœal Conjunctivitis.—Diagnostic Table of Gonorrhœal Conjunctivitis and Gonorrhœal Ophthalmia.

Folliculitis.—During the acute stage of gonorrhœa, sometimes there appear along the urethra, especially in the region of the fossa navicularis, one or more small, round tumors, slighly sensitive to pressure, varying from the size of the head of a large pin to that of a pea. These tumors are cysts by occlusion of the mouths of the lacunæ of Morgagni. Inflammation seals the orifice of the follicle and the lacuna is converted into a cyst containing pus. As the latter continues to be produced, the cyst enlarges. The pain accompanying it is insignificant, and the little lump is detected by accident. It feels like a hard ball moving under the skin and attached by a pedicle. This pedicle is the obliterated neck and orifice of the follicle. The little tumor tends to remain stationary for some time, and then suddenly to enlarge, soften, involve the integument, open externally (very rarely into the urethra), and, after discharging, remain fistulous for a long time; not, however, communicating with the urethra. These tumors have been compared by Ch. Hardy,[1] who has described them very accurately, to wens of the scalp. The best treatment consists in incising the skin and enucleating the cyst entirely, or excising a considerable portion of its wall, allowing the wound to heal by granulation.

Another form of lacunal inflammation is where the lacuna magna in the roof of the urethra continues inflamed, perhaps after all the lining membrane of the urethra has returned to its normal condition. The mouth of this lacuna is too large to become obliterated, and the result is a gleety discharge, which tends to run on indefinitely. This condition may be relieved by introducing a fine director along the roof of the urethra until it is caught in the lacuna, and slitting open the pouch as recommended by Phillips.[2]

Cowperitis.—Inflammation in and around Cowper's glands is rare. It seems to occur only in connection with urethral inflammation. Gubler[3] has written exhaustively on the subject. Cowperitis rarely comes on before the third or fourth week of gonorrhœa. Sexual intercourse,

[1] "Mémoire sur les Abcès blennorrhagiques," Paris, 1864.

[2] "Maladies des Voies urinaires."

[3] "Des Glandes de Méry (vulgairement Glandes de Cowper), et de leurs Maladies chez l'Homme." Thèse, Paris, 1749.

catheterism, and other irritations, have seemed to provoke it, but it may arise simply from extension of inflammation without appreciable immediate exciting cause. Only one gland is usually affected—by preference the left. Both may be (rarely) involved. The connective tissue around the gland is always largely implicated in the inflammation, making the disease mainly a peri-cowperitis.

The symptoms are, painful tension of the perinæum in the region of the bulb, increased by sitting, by pressure, by the friction of the pantaloons, slight swelling, with no change in color of the skin. On palpation, a small, deep ovoid or pyriform tumor is felt, the large end regarding the anus, the small end confounded with the bulb. It is about the size of a bean, on one side of the raphe, between the transverse muscle and the bulb. Soon the surrounding tissue becomes involved, and the tumor is completely masked. After this the phenomena are identical with those of perineal abscess. The inflammation often includes the scrotum. It is limited posteriorly by the transverse muscle of the perinæum, and usually crosses the raphe, but remains always more prominent upon the side where the inflammation began.

Constitutional sympathy depends upon the height of the inflammation. The abscess usually breaks externally. Its cavity is found to be partitioned, the compartments seeming to represent the lobules of the gland primarily affected. If the abscess open internally, urinary infiltration and fistula are to be feared. Hence the value of an early incision.

Simple cowperitis may undergo resolution. It is supposed that these glands are more or less inflamed in those cases of gleet accompanied by painful tension at the bulbous region. When peri-glandular inflammation ensues, suppuration seems inevitable. Gubler[1] cites a syphilitic gummy tumor of the perinæum, which occupied the exact position of Cowper's gland.

Treatment.—Early in the disease, absolute rest, fifteen or twenty leeches, over and around the painful spot, warm baths, a laxative, and an alkaline diuretic, constitute the treatment. If, in spite of these measures, suppuration comes on, it should be aided by poultices, and an early incision resorted to. The rule is, do not wait for positive fluctuation, which is difficult to detect through the hardened, inflamed perinæum. Pus has usually formed in one week. If it be not reached by the incision, no harm is done. The tissues will become disgorged, and whatever matter may subsequently form will find its way out through the incisions already made, which should be deep and thorough. If retention comes on, or is threatened, immediate external incision is imperative.

Peri-Urethritis terminating in abscess. Chordee is a peri-urethritis, but has little or no tendency to suppurate, and passes off during subsidence of the general inflammation. Suppurative peri-urethritis is

[1] *Loc. cit.*

rarely idiopathic. Its classical causes are gonorrhœa, or infiltration in connection with stricture. During gonorrhœa, suppurative inflammation may attack any portion of the spongy tissue around the urethra, but there are two points of election, the fossa navicularis, and the bulb. Anteriorly, peri-urethral abscess usually develops on one side of the frænum. It may commence centrally, bulge on both sides, and in this way be bi-lobed. At the bulb, the abscess begins centrally as a rule. Here the affection is far more serious. The whole perinæum becomes involved, the inflammation perhaps extending back to and around the anus. The root of the penis and the scrotum may also be included. Constitutional symptoms, usually absent with abscess at the fossa navicularis, are invariably present with abscess of the bulb, their intensity being proportionate to the grade of the inflammation. When a large extent of spongy tissue, anywhere along the urethra, falls into suppuration, constitutional sympathy is marked. These abscesses are only slightly painful at first, but they soon enlarge and become tender, being surrounded by a boggy œdema. They do not furnish the shot-like feel of the little pediculated cystic tumors of folliculitis.

Treatment.—An early deep incision is imperative, long before pus can be made out. If this is neglected anteriorly, traumatic hypospadias may result, while in abscess of the bulb the most serious consequences may ensue. The remarks made in relation to abscess attending peri-cowperitis apply with still more force here; ulceration into the urethra, retention, infiltration, burrowing of matter, with all their disastrous consequences are to be feared, if abscess of the perinæum breaks internally. None of these serious results are, however, inevitable. Should the abscess open into the urethra, the surgeon's duty is to watch, and only to interfere externally with the knife when urethral fever, pain, renewed swelling, and local tenderness, with tendency to the formation of other purulent collections near by, warn him that urine escapes from the canal, is burrowing, and requires an external outlet at once. In such a case, if there be no prominent point to incise (and any opening must be deep), it is better to perform external perineal urethrotomy, including, if possible, all fistulous tracts in the incision. The fistula may require subsequent attention. Abscesses (probably peri-prostatic), complicating gonorrhœa, occasionally occur behind the triangular ligament. These are liable to cause retention, may discharge into the urethra, or may be opened from the rectum after careful exploration.

Adenitis.—A slightly painful enlargement of one or more inguinal glands is of quite common occurrence early in gonorrhœa. If the patient remains quiet for a time, the pain and engorgement usually disappear. Such glands exceptionally go on to suppurate. In the strumous, or markedly lymphatic, a certain amount of very persistent, indolent engorgement of the lymphatic glands may be brought on by gonorrhœa, and remain long after it. Should pus form, it is not auto-inoculable.

The treatment is, primarily, proper care of the urethral inflammation; for the adenitis, rest and the avoidance of all local irritation. If suppuration seems inevitable, a poultice and an early opening.

Lymphitis.—More or less lymphitis is a very common complication where urethral inflammation runs high. Several different forms are found. They have been well described by Fournier.[1] Where the lymphatic vessel alone is involved no pain is felt, nor does any external appearance attract the patient's attention. The finger, however, detects indurated cords under the skin, a dorsal trunk being usually the most prominent. The feel of these cords is exactly similar to that of the same vessels in the lymphitis of infecting chancre (Fournier). If there be peri-lymphitis, reddened streaks are seen upon the sides or back of the penis, and the corded lymphatics are felt hard, knotty, painful on pressure, often several of them matted together. They may be isolated by the fingers from the subjacent parts. There are painful tension of the inguinal glands and œdema of the prepuce.

The treatment is rest, emollient dressings (warm lead-water covered with oil-silk, poultice), warm baths, perhaps a few leeches in the groin. Occasionally abscesses form along the course of the hard cords. These should be opened early, as the pus is very apt to burrow, and may denude a considerable extent of penis.

Another form of lymphitis is that where the superficial lymphatics (not the trunks, although both may suffer together) become inflamed (erysipelatous lymphitis). Here a superficial redness, evenly spread out, involves the skin, which is swollen and very sensitive to the touch. This affection is often limited to the prepuce, which becomes œdematous and liable to phimosis. If the whole penis is attacked, fever runs high and the local distress is intense.

Treatment is the same as for lymphitis of the trunks. Resolution is the rule. Matter may form, however, and denude the penis. This may be prevented by early incisions. The indication for the knife is a porky, doughy, brawny condition of the integument, like that felt in phlegmonous erysipelas.

A hard œdema of the prepuce is often left behind by these different forms of lymphitis, especially in the neighborhood of the frænum, sometimes causing phimosis. Lymphitis may leave the lymphatic trunks in a varicose condition (Ricord), or lymphatic fistula may result, usually requiring excision for its removal.

GONORRHŒAL RHEUMATISM.

At about the same time in the year 1781, Selle and Swediaur described an inflammatory articular affection as dependent upon gonorrhœa. Since then the writings of Hunter, Cooper, B. Brodie, Brandes,

[1] "Nouv. Dict. de Méd. et de Chir. prat.," p. 185.

Bonnet, Diday, Rollet, Fournier, and others,[1] have established the fact that the connection between the two diseases is not a coincidence, but that a relation of cause and effect exists. The strongest proof of this relation lies in the fact that certain individuals, not ordinarily subject to rheumatic attacks, get a peculiar form of rheumatism when they get gonorrhœa. They remain well between the gonorrhœal attacks, but have a relapse of rheumatism whenever a new urethral inflammation is acquired. Brandes gives the history of such a case, where a fresh attack of rheumatism attended six successive gonorrhœas, and Fournier mentions a case of quadruple relapse. None of the ordinary causes of articular rheumatism seem to have any power in producing the gonorrhœal variety. It is not the effect of cold, or moisture, or fatigue; nor, indeed, does its immediate cause seem to be any modification in the discharge, or any medicine taken, or any injection used. The sole and only known exciting cause is an inflammation of the urethra, secreting pus, and there is a vague suspicion in the profession that there is something analogous to mild pyæmia about the condition.

When this complaint has once complicated a gonorrhœa, the chances are that every succeeding urethral inflammation will be attended by its rheumatism, in spite of all efforts to keep it off. Fortunately all patients with gonorrhœa are not liable to this complication—a small minority only is affected. An ordinary patient with gonorrhœa, even having a pronounced rheumatic diathesis, may expose himself to cold, moisture, and fatigue, without getting any rheumatism; or, if he does get an attack, its course is not varied nor its symptoms modified by the coexistence of urethral discharge.

It is, then, an individual idiosyncrasy which causes a patient with gonorrhœa to develop rheumatism, and not any tendency to suffer from the latter complaint.

Women possess a strange immunity from gonorrhœal rheumatism. They do suffer from it, but only exceptionally. It is supposed that the explanation for this may be found in the fact that the vagina and not the urethra is the usual seat of gonorrhœa in the female.

Gonorrhœal rheumatism resembles rheumatic gout more than rheumatism. The local inflammatory character of the symptoms is usually inconsiderable, and the constitutional sympathy is not of a severity proportionate to the trouble in the joints.

The date of appearance of the rheumatic complication from the beginning of the urethral discharge is variable. It has been noticed as early as the fifth day, but usually does not come on till a later period. Fournier places the usual date of the outbreak between "the sixth and fifteenth day," rarely during the second or third month, or at any later period. The old idea, that the rheumatic complication is the result of a

[1] For bibliography, *see* Art Médical, November and December, 1857, vol. vi. "Observations et Matériaux pour servir à l'Histoire de l'Arthropathie blennorrhagique," Ch. Ravel, and Fournier, *loc. cit.*

metastasis of the gonorrhœa, is untenable. There is no diminution of the discharge previous to or coincident with the invasion of the rheumatism, and there exists no indication to increase the urethral flow and thus "save the synovial membranes." The discharge is not usually at all modified, although it is sometimes notably diminished a few days after the rheumatic symptoms have set in—which may be explained by the fact that the rheumatism keeps the patient more at rest, or, by the revulsive action which any intervening inflammatory affection is liable to exercise over a purulent discharge. Where the complication comes on late in a clap, it has been observed that its advent is preceded by an exacerbation of the discharge for a few days.

The seat of the disease is variable—joints taking the first rank; the synovial sheaths of tendons and muscles the second; then coming synovial bursæ and nerves. The eye not infrequently suffers. The pericardium (Brandes) and meninges of the brain and cord (Ricord) seem to be involved occasionally. Concerning the joints, Fournier tabulates one hundred and twenty cases, of which thirty-nine are his own. The whole number of joints affected in these cases was two hundred and twelve; the knee eighty-three times—over two-thirds of all the cases; ankle, thirty-two times—about one fourth; fingers and toes, twenty-five times—about one fifth, etc. The large joints, particularly the knee, are by far the most often involved, and, when the smaller joints suffer, they do so consecutively. The disease is rarely absolutely confined to a single joint; but still it shows a marked tendency to be mono-articular. Fournier's division of the disease into three prominent varieties is convenient and practical.

The first form—a common one—is a hydrarthrosis, attacking usually the knee, sometimes the ankle or elbow. This form is generally mono-articular. It comes on insidiously; but the effusion into the joint, which is usually considerable, may take place rapidly. The pain is slight, but is increased by walking, running, or moving the joint. There may not be enough pain to call the patient's attention to his joint, although this is unusual. The integument over the affected region preserves its color, and there may be no constitutional disturbance. The affection tends to remain indolent, and to undergo resolution slowly, lasting sometimes many months.

The second form is more like ordinary rheumatism. More or less local and general febrile reaction is the rule, and this form is usually poly-articular and liable to be attended by trouble in the tendons, eyes, etc. The symptoms are like those of ordinary rheumatism, only more moderate. The pain, at first severe, is usually notably modified by rest—far more so than is the case with ordinary rheumatism. Constitutional symptoms occur; but the fever is moderate, and subsides after a few days, while the local disturbance continues. This relative lack of proportion between the constitutional and the local symptoms is a strong

diagnostic feature of the malady in question. When only one joint is affected, there is sometimes a total absence of general symptoms. When several joints are involved, they become so, as a rule, consecutively. The malady, however, does not become so general as it does in ordinary rheumatism. It is more stationary, less mobile, does not jump from one joint to another. When a new joint is involved, those previously affected continue to suffer—with, of course, occasional exceptions. Resolution is even more tardy than in ordinary rheumatism. A secondary hydrarthrosis, rare in simple rheumatism, is not uncommon in the gonorrhœal variety. The sweating, so constant in simple rheumatism, does not occur, even where there is a good deal of fever, or, if it does come on, it is of short duration. The acid concentrated state of the urine, found in simple rheumatism, is not noticed, nor does the blood show the same excess of fibrine. Finally, the pericardium, endocardium, pleuræ, etc., are very rarely involved.

Slow resolution is the usual termination of the disease, but articular pains, or very persistent stiffness, may be left behind; or, more rarely, chronic hydrarthrosis, chiefly of the smaller articulations (Brandes), anchylosis, or even white swelling—the latter only in lymphatic or scrofulous patients (Sordet). Acute suppuration does not occur (Fournier).

The third form which the affection may assume is that of vague, ambulatory—sometimes very persistent—pains in joints, which do not appear to have suffered any structural alteration, and of which the function is undisturbed—the knee, wrist, shoulder, foot, and jaw. This pain, which may be the only symptom, is rebellious to treatment, and, after it has gradually subsided, is apt to return, if from any cause the amount of urethral discharge becomes increased.

The synovial sheaths of the tendons of the extremities may be affected, either alone, or, more commonly, in connection with whatever joints are involved. There are tumefaction along the course of the tendon, redness of the integument, occasionally very intense, if the tendon be superficial, severe pain on pressure, and partial or entire abolition of the movement of the muscle belonging to the tendon involved. This affection, like the others, undergoes gradual resolution. Hot local anodyne fomentations are indicated.

The bursæ may also suffer. In this case we have an acute or subacute hygroma, which is peculiarly painful and sensitive to pressure for a long time. Two bursæ seem most liable to the attack, the one lying between the tendo-Achillis and the os calcis, and the other situated beneath the inferior tuberosity of the same bone. This explains the pain in the heel, so often complained of by these patients—alluded to by Swediaur. Other bursæ suffer, but more rarely.

The acute symptoms accompanying inflammation of bursæ usually yield rapidly to local depletion and sedatives; later a blister. Four-

nier[1] mentions a case of gonorrhœal hygroma of a bursa over the ischium, which he saw with Verneuil. The symptoms attending it were so severe as to lead these gentlemen to a diagnosis of deep suppuration. They made preparations to incise the swelling, when a sharp pain suddenly appeared in the knee. The operation was postponed. In a few days the hygroma disappeared "with surprising rapidity," while the knee-joint became acutely inflamed.

Evidences of muscular rheumatism may attend the symptoms of rheumatic trouble elsewhere. The nerves do not always escape. Fournier observed sciatica five times among his thirty-nine cases. Diplopia (Fournier), deafness (Swediaur, Fournier), and little superficial collections of serum near the affected joints (Fournier, Ricord, Féréol), have been mentioned as rare occasional complications. The following excellent table, arranged by Fournier, gives at a glance the characters distinguishing gonorrhœal from ordinary rheumatism;

Gonorrhœal Rheumatism.	*Simple Rheumatism.*
1. Cause.—Urethral inflammation. No influence of cold in the production of the rheumatism.	1. No etiological relation with the state of the urethra. Habitual causes—cold, inheritance, rheumatic diathesis, etc.
2. Very rarely observed in women.	2. Common in the female, although less frequent than in the male.
3. Non-febrile, or much less so than simple rheumatism. Even in acute cases, reaction never attains the habitual intensity of rheumatic fever.	3. Reactional phenomena much more intense and prolonged than in gonorrhœal rheumatism.
4. Symptoms habitually limited to a small number of joints. The affection never becomes general to the same extent as simple rheumatism.	4. Symptoms usually involve a number, sometimes nearly all, the articulations.
5. Less movable than simple rheumatism, going from one joint to another less quickly. No delitescence, no real jumping from one joint to another.	5. Symptoms, movable — ambulatory fluxions; rapid delitescence, jumping from one joint to another.
6. Local pains generally moderate, always less than in simple rheumatism. Sometimes remarkable indolence.	6. Pains always rather intense, sometimes excessive, disappearing less rapidly than those of gonorrhœal rheumatism.
7. Frequently a tendency to hydrarthrosis, following the acute fluxion.	7. Little or no tendency to consecutive hydrarthrosis.
8. No sweating.	8. Abundant sweats, constituting a symptom almost essential to the malady.
9. Urine not modified.	9. Urine specially modified.
10. Blood not furnishing a marked buffy-coat.	10. Blood forming a firm concave clot with buffy-coat.
11. Cardiac complications very exceptional.	11. Cardiac complications frequent.
12. Frequent coincidence with a special ophthalmia, inflammation of the synovial sheaths of tendons, inflammation of bursæ, etc. The latter localities may be exclusively implicated.	12. Acute rheumatism does not affect the eye; the bursæ escape, as do usually the sheaths of tendons.
13. Relapse in the course of successive gonorrhœas very frequent.	13. Relapse frequent, but always independently of the state of the urethra.

[1] *Loc. cit.*, p. 237.

Treatment.—The ordinary treatment for rheumatism or rheumatic gout is not applicable. Local measures are of the first importance. Internal treatment is hygienic and rational, cod-liver oil, iron, quinine, tonics if required, and alkali, if the urine is over-acid, etc. The specific remedies for gonorrhœa are without effect over the rheumatism, but nevertheless the urethral inflammation must be treated without interruption. As a rule, the sooner the urethra returns to a normal condition, the more effective will be the means used against the rheumatism. Often, however, the latter will outlast the former; but, at least, a relapse may be averted. On no account should the urethral inflammation be rekindled, if it shows a tendency to subside; this practice has become obsolete by general consent. In all forms of the complaint, rest is of the first importance. During the more acute manifestations, the affected joint should be immovably fixed in a wire or other splint, and kept at perfect rest. Fifteen or twenty leeches locally applied, followed by hot narcotic fomentations, will usually speedily reduce pain, and bring the malady to a subacute stage. A cathartic at the beginning will leave the patient more comfortable. The diet should be low while the patient is confined. After the more acute symptoms have subsided, and especially where there is effusion, the joint should be covered by a large blister, followed by another as soon as the skin is dry, and perhaps a third. The blisters may be dressed with cerate, containing four or five grains of morphia to the ounce. As soon as pressure can be borne, the surface should be thoroughly painted with iodine, and firm pressure applied by means of adhesive straps encircling the joint, the whole limb, of course, being snugly bandaged. Obstinate cases, which resist treatment, are greatly benefited by a snugly-applied starch or plaster bandage. Suspension of the functions of a joint is of the first importance in bringing about resolution. Colchicum and iodide of potassium are rarely of any service. In chronic cases, and for the articular and muscular pains, Russian and Turkish baths, with local douche, friction, and massage, render valuable service.

GONORRHŒAL OPHTHALMIA.

There are two forms of ocular trouble caused by gonorrhœa. The first is rheumatic in character, nearly always (Ricord, Fournier), but not invariably accompanied by other signs of gonorrhœal rheumatism, having no connection with contagion as a cause, and affecting the membrane of Descemet, the iris, or the conjunctiva.

The second form is conjunctivitis, depending always upon contagion.

The distinction between these two affections should be kept constantly in view.

Rheumatic Gonorrhœal Ophthalmia.—To Abernethy, Mackenzie, and particularly Ricord, is due the credit of having first accurately described this affection. It is generally associated with the poly-articular variety of gonorrhœal rheumatism. It may precede, or follow, the development of rheumatism elsewhere. Contagion will not produce it. Its essential cause is the existence of a urethral discharge. According to Fournier, it is more frequent than gonorrhœal conjunctivitis, as 14 to 1; cold, fatigue of the eye, etc., have no power to produce it. An individual idiosyncrasy seems to preside over its appearance. Should it occur with one urethral inflammation, the chances are that it will reappear with the next. It is far more common in the male than in the female. Sometimes it appears to exercise a revulsive action upon the joint trouble, and *vice versa*, the one disappearing to be replaced by the other, but this exceptional. The rule is contained in Brandes's assertion, "There exists no other relation between gonorrhœal ophthalmia and gonorrhœal rheumatism than one of coexistence."[1] In brief, gonorrhœal ophthalmia is a localization of gonorrhœal rheumatism upon the eye, all the rest of the body (perhaps) escaping.

Symptoms.—Inflammation of the membrane of Descemet (aquo-capsulitis) is the most common form of attack. Here the conjunctiva is only moderately injected, the cornea is transparent, but more than usually prominent. A cloudy, smoky appearance of the fluid of the anterior chamber is the most characteristic objective symptom. Sight is slightly troubled, objects looking misty. There is no pain, but sometimes a sensation of uneasiness about the eye. Photophobia is absent or very mild. Sometimes there is a slight flocculent deposit on the posterior face of the cornea, with the escape of a little blood into the aqueous humor (Cullerier). The iris is unaffected, perhaps a little slow in its movements. There is no deformity of the pupil, no change in color of the iris, no other sign of iritis—points strongly insisted on by Cullerier.[2]

When the iris is attacked, the symptoms do not differ from those of simple iritis; redness of the cornea, radiate peri-corneal injection, contracted deformed pupil, sluggishness or abolition of the movements of the iris, change of color, effusion of lymph into the pupil, plastic deposits in the anterior chamber, more abundant in gonorrhœa than in ordinary iritis (Mackenzie), obscurity of vision, photophobia, lachrymation, peri-orbital and occular pains.

Fournier has described a rare *conjunctival form of gonorrhœal ophthalmia*. There are simple conjunctivitis, injection of the conjunctiva,

[1] "Du Rheumatisme blennorrhagique" (trans.), "Arch. Gén. de Méd.," 1854.
[2] "Des Affections blennorrhagiques." Leçons cliniques publiées par Eugéne Royet. Paris, 1861.

uniform, or marked at certain points—the secretion is scanty, muco-purulent. There are slight, perhaps no lachrymation, a little itching about the eyes—sometimes absolutely no pain, photophobia, or alteration of vision, no symptom of iritis or of aquo-capsulitis.

These varieties of ophthalmia, unlike the contagious conjunctivitis, are rarely mono-ocular; when so, the form is usually iritis. Both eyes are rarely attacked simultaneously. After one has recovered, inflammation may attack the other, run its course, and then return to the eye first involved. To get the disease the patient himself must have gonorrhœa, unlike the conjunctivitis of contagion, which may be produced in any healthy individual by the mere contact of gonorrhœal pus.

Gonorrhœal ophthalmia runs a rapid course, declining with unusual speed. It may last several weeks, or only a few days. Relapse is not infrequent. Of the three forms, conjunctivitis is the least harmful, aquo-capsulitis is not grave; the iritis alone is liable to leave trouble behind in the shape of adhesions.

Treatment is mainly expectant. The eye must be kept at rest in all cases. The best local applications are emollient lotions and collyria frequently used, warm water or steam—with atropine, in case of iritis. Astringent collyria are useless, even harmful. Irritating pediluvia, the judicious use of revulsive cathartics, and a low diet, constitute the general treatment. If the symptoms prove obstinate, the frequent application of small mild blisters to the temples and forehead is of service. In mild cases, patients do better if not confined. They may even attend to business, if the eye be kept covered. In severe cases, housing is necessary, local emissions of blood may be practised, and repeated purgation should be resorted to. When the peri-orbital and frontal pains are severe in iritis, large doses of quinine seem to be of service, with the local inunction of belladonna-ointment, or of a liniment composed of ol. menth. pip. four parts, chloroform and liq. ammoniæ, of each one part: or—

℞. Chloroform: tr. opii: ol. oliv., āā q. s. M.

If the pains persist, in spite of these measures, codeine or morphine may be used at night, by the stomach, or subcutaneously.

Gonorrhœal Conjunctivitis.—This terrible malady is fortunately rare. Its sole and only cause is contact of gonorrhœal pus with the conjunctiva. It has no other relation with gonorrhœa than this, and may affect the surgeon or the nurse as well as the patient, provided only a little of the contagious pus touch the conjunctiva. Hence the necessity of forewarning patients of the danger they run in neglecting the most scrupulous cleanliness of the hands after dressing the penis, using injections, or passing water. For the surgeon, this precaution is equally necessary, together with the other one of burning all pieces of sponge, linen, lint, etc., which are brought into contact with gonorrhœal pus, derived either from the urethra or the eye. If this be neglected,