naturally, such treatment could not be expected to cure him—at least so I thought.

Yet there are cases in which the vesicle is manifestly distended and sensitive; the patient cannot sit squarely upon a cushioned seat for the discomfort it occasions; there is positive pain across the back low down, and perhaps also radiate neuralgia in the sciatic or anterior crural nerves; and disgorgement of the distended vesicle by pressure surely gives relief to all of these symptoms at once.

If vesicular massage be practised the intervals ought to be about five days. The douche may be tried first in all cases. If it succeeds, well and good; if not, massage may be tested; but sometimes both are ineffective.

Yet neither douche nor massage can be expected to effect a rapid cure. If the symptoms are moderately acute rather prompt relief may be looked for—perhaps in a month or six weeks. In chronic cases a longer period must be allowed for improvement to manifest itself, and it may take six months or a year to effect a cure.

While the success of the treatment of chronic spermato-cystitis, as of so many other maladies of these regions, often depends more upon a comprehension of the patient's nervous calibre and sexual hygienic irregularities than upon the technic of local treatment, correction of diatheses and of dietetics, with tonics—medical, moral, and hygienic—is of the utmost value.

Perivesicular Abscess.—Chronic abscess and infiltration of the perivesicular tissues occur now and again, causing retention of urine, impotence, local pains, etc.

Fuller [1] suggests that these abscesses be attacked by the Kraske sacral incision. I consider the perineal route preferable (p. 789). He reports 2 cases—1 cured, the other disappeared. This example has not been followed.

[1] J. of Cut. and Gen.-Urin. Dis., 1896, xiv, 330.

CHAPTER IX

EXTRA-GENITAL AND METASTATIC GONORRHEA

The gonorrheal maladies so far considered all affect the genital apparatus. Acute gonorrheal cystitis, confined as it is to the neck of the bladder, is in reality only a part of the picture of acute gonococcal posterior urethritis. But there are numerous other morbid conditions directly due to the specific germ, involving the urinary tract, the other mucous membranes, and many other structures of the body. Indeed, modern laboratorial research has achieved for gonorrhea the distinction of ranking as a general systemic malady, since the gonococcus has proved its ability to establish a habitat outside the urethra.

A mass of literature upon this subject is collated in the classical work of Marcel Sée.[1] It covers the subject entirely up to its date (1896). Since then there has been no stint of workers in the field, both in the clinic and the laboratory, and the extent of the *rôle* of the gonococcus is doubtless now fairly well understood. It is impossible to follow all these modern investigations minutely in a work of this character, but it is interesting to append Young's [2] list setting forth the chronological advance of our knowledge and the names attached to each new step.[3]

[1] Le gonocoque. Paris, 1896. [2] J. of Cut. and Gen.-Urin. Dis., 1900, xviii, 240.

[3] Neisser in 1879 demonstrated that the gonococcus is the cause of ophthalmia neonatorum.

Bumm in 1887 successfully cultivated the gonococcus.

Arthritis—Gonococcus demonstrated in Pure Culture. Lindemann, 1892.

Salpingitis and Circumscribed Pelvic Peritonitis. Wertheim, 1892.

Abscess, Subcutaneous. Lang and Paltauf, 1893.

Teno-synovitis. Tollemer and Macaigne, 1893.

Pleurisy. Mazza, 1894.

Perichondritis. Finger, Gohn, Schlagenhaufer, 1894.

Abscess, Intramuscular. Bujevid, 1895.

Acute Cystitis. Wertheim, 1895.

Endocarditis and Septicemia. Thayer and Blumer, 1895.

Adenitis—Glands of the Neck. Petit and Pichevin, 1896.

Chronic Cystitis, Pyonephrosis, Diffuse Peritonitis. Young, 1898.

Abscesses, cutaneous, subcutaneous, and muscular[1] (the inoculation being through the sheath of a tendon or direct, as after incising an infected joint), have yielded pure cultures. So also general diffuse peritonitis in the female (Cushing, Young). In animals diffuse peritonitis has been induced by inoculation, but diffuse pure gonococcal peritonitis has not yet been found in the human male. Peritonitis in the male, due to rupture of seminal vesicular abscess, has always bacteriologically proved to be a mixed infection.

GONOCOCCAL CYSTITIS

Wertheim in 1895, Lindholm in 1896, demonstrated a pure gonococcal cystitis without mixed infection. By aseptic suprapubic aspiration Young obtained gonococci in the urine thrice, and a pure culture once. In this instance the urine was full of blood, and Young attributes his failure to obtain pure cultures in the other cases to the fact announced by Colombini that the gonococcus does not develop in non-albuminous urine. This is due not to the acidity of the urine, but to the fact that it contains no albumin. Young states that out of many hundreds of cases of urine in gonorrheal cystitis examined bacteriologically in only 3 (Wertheim, Lindholm, and Young) has a pure culture been obtainable, and in only 6 has the diagnosis been made by cover-slip staining,[2] a failure explained by Colombini's discovery. Young has one case, however, in which the urine did contain gonococci, although there was no cystitis, an absence which he ascribes to lack of co-operating cause for cystitis and variability of gonococcal virulence. He also obtained a pure culture from a severe chronic gonorrheal cystitis of five years' duration. The urine was foul and alkaline.

Treatment.—For the acute stage the treatment has been given (p. 139). When chronic it is that of other forms of chronic cystitis (p. 393) with a special leaning towards rather strong local irrigations with the nitrate of silver. But in *very* old cases there is always, I believe, contracture of the vesical neck, and in these I have never been able to effect a cure except by perineal cystotomy and thorough division of the vesical contracture. This has always been successful (p. 317).

[1] Their study commencing with Lang and Paltauf in 1893, through Jundell in 1897, and ending with Young in 1898.

[2] Melchior, 1; Barlow, 2; Bastianelli, 2; Young, 1.

GONOCOCCAL PYELITIS AND PYONEPHROSIS

Moderate and sometimes most intense pyelitis has been observed during the course of an acute gonorrhea. This pyelitis has always been considered, and doubtless justly, to be an acute ascending infection by way of the ureters, but the bacteriological demonstration of this fact has not yet been made. Nor, indeed, has a demonstration of the gonococcus often been made for pyelo-nephritis.[1] Many cases of pyelo-nephritis have been reported as gonorrheal. Young reviews them and casts doubt upon them. Sée also concludes that gonorrheal pyelo-nephritis has not been conclusively demonstrated. Young's own case, however, seems nearly to fill the required conditions. There was double pyelo-nephritis, and an aseptic aspiration of urine from the bladder gave a pure culture of the gonococcus.

Arpad Gerster,[2] of New York, reports an autopsy which showed staphylococci and gonococci in the kidney. Bransford Lewis,[3] of St. Louis, publishes a case of pyelo-nephritis; the patient had denied gonorrhea, and his lungs showed tubercular cavities; autopsy cultures from the pus of the cavities in the kidney showed pure colonies of gonococci decolourizing under the Gram solution.

ANO-RECTAL GONORRHEA

This malady undoubtedly exists, due to a continuation of the practice of the abomination of Sodom and to the trickling down of pus from the vagina upon the anus. Bumm[4] found the gonococcus in the rectum, and Neisser[5] in a discussion called attention to rectal gonorrhea as a cause of chronic ulceration in that region. Lang in the same discussion thought that rectal ulcer and stricture might be of gonorrheal origin. Neisser had already reported 2 cases, Frisch a case, Tuttle, of New York, 3, and so on. Neuberger and Borzecki[6] have 5 cases, and have collated a number of interesting facts and observations. Griffon is referred to by Sée as having demonstrated gonococci (intercellular) taken from the rectum of a man who acknowledged the etiological factor.

Symptoms.—The incubation period is not known, for the malady at best is very rare, but a smarting, burning, itching, swollen condition of the anus and rectum with more or less discharge, with or

[1] Univ. Med. Mag., 1899, xi, 504.
[2] N. Y. med. Monatsschr., 1897.
[3] J. of Cut. and Gen.-Urin. Dis., 1900, xviii, 395.
[4] Archiv f. Gyn., xxiii.
[5] Deuxième cong. de dermat. Vienna, 1892, p. 303.
[6] Ueber Analgonorrhea. Archiv f. Derm. u. Syph., 1894, S. 355.

without excoriation or ulceration and with a relaxed sphincter, suggests a suspicion which may be verified by discovery of the gonococcus in the pus.

There may or may not be swollen folds about the anus, and condylomata (pointed) may or may not abound; nor is the funnel shape of the anus and the disappearance of the ano-rectal folds, found in old pederasts, to be confidently expected in every case. The grade of inflammation has varied greatly in the reported cases from almost nothing up to an ulcerated condition with abundant purulent discharge, foul and putrid, flowing over excoriated fissures, amid fleshy tabs and rankly growing warts.

The subjective symptoms, of course, vary with the grade of local inflammation. Defecation may be normal or excruciatingly painful.

In the old chronic cases, when there is stricture and ulceration, the diagnosis may lie between gonorrhea and tubercle, a point that the laboratory will decide.

Treatment.—Cleanliness, hot sitz baths, laxatives to keep the rectum empty, suppositories of cocain and opium are indicated, and rest in bed is obligatory in bad cases. Injections should be given twice a day through a small soft tube, and should always be hot. Such injections should be soothing, bactericidal, not astringent. Boric acid, and very mild sulpho-carbolate-of-zinc solutions (1:2,000) are helpful. The permanganate of potash (1:5,000 or weaker) ought to be useful. I am not aware that it has been tried. Bichlorid is too irritating. Nitrate of silver, 1:20,000, and increased very materially towards the end of the trouble, is of undoubted value.

Light cases recover spontaneously with little or no care, and old chronic ones with ulceration, etc., which are rebellious, give rise to a suspicion of mixed infection, perhaps tubercular. No one has seen a sufficient number of these cases to formulate a satisfactory routine of treatment, which must be along general surgical lines, recognising the infective nature of the malady, with cleanliness, rest, drainage, and antisepsis as the objective points.

BUCCAL GONORRHEA

This alleged malady is as yet too obscure to require more than mention. The older cases of swelling of lips, gums, and tongue after bestial practices have no value, as gonococcal examinations were not made. The cases in which gonococci have been found, or diplococci, at least, are those of Cutler,[1] a woman confessing the cause,

[1] N. Y. Med. J., Nov. 10, 1888, p. 521.

but her mouth inflammation came on within less than twenty-four hours after exposure, and of Dohm,[1] several infants, one notably with purulent ophthalmia. The mucous membrane of the mouth became eroded on the eighth day after birth, and the false membrane showed gonococci from which cultures were made. The mother had putrid vaginal secretion and condylomata. Rossinski[2] records infants with coincident suppuration of the mouth and conjunctiva, and Leyden[3] has about the same testimony to adduce.

All this makes a pretty poor claim, but no harm comes of allowing it. These mouth lesions get well under a mild bichlorid lotion.

Still less definite is the gonorrhea of the nose, where, Heaven knows, it ought to be common if it occur at all, for the dirty fingers of dirty men approach the nostrils perhaps more often than any other mucous orifice. The nose may be dismissed in spite of specious claims, and finally, the testimony upon which umbilical gonorrhea rests is too trivial even for citation.

The same may be said of the alleged affections of the nervous centres, and of the undoubted involvement of the connective tissue, the skin, and the lymphatic system.

But two definite lines of gonococcal infection remain for serious consideration, the one mostly by direct contamination, the eye, the other by metastasis, gonorrheal rheumatism.

GONORRHEAL RHEUMATISM—SYSTEMIC GONORRHEA

Systemic gonorrheal infections, especially their more acute and malignant forms, have, within the past few years, claimed a greater share of the attention of the profession than their frequency warrants, a claim which is due to their activity and their severity.

Gonorrheal rheumatism has long been recognised. We have learned that it is caused by the presence in the circulation of the gonococci or of their toxins and the deposition of the germs or of their products in the affected joints. Gonorrheal rheumatism, then, is a form of systemic gonorrheal infection. This fact is attested by the febrile manifestations associated with the acute forms of the disease; but the more striking condition—which has been recently described by many authors—is a virulent septicemia or a pyemia arising from some focus of gonorrheal suppuration (usually from a prostatic abscess). This follows a course similar to that of a like condition produced by the ordinary pyogenic cocci, terminating usu-

[1] Revue des maladies de l'enfance, 1891, p. 282.
[2] *Ibid.* (citation from Zeitschr. f. Geburtsh. u. Gyn., 1891), S. 282.
[3] Centralbl. f. Gyn., 1894, S. 185.