question is further considered in connection with the subject of prognosis in *Chronic Urethritis.*

The duration of a gonorrhœa under proper treatment depends so much upon the individual, his habits, his surroundings, and the previous state of his urethra, that it is impossible to make definite statements applicable to all cases. The prognosis must always be guarded. Usually the first attack of gonorrhœa, under favorable circumstances and with good treatment, lasts from five to eight weeks. The discharge may disappear or be suppressed by local treatment much earlier, but this fact by no means proves that the urethra is in a healthy condition or that slight irritation may not induce a discharge showing gonococci in abundance and proving highly infectious. Successive attacks, though less acute, are generally of longer duration. In general, an attack following a short period of incubation, in which the symptoms rapidly reach a climax of intensity, terminates in recovery earlier than another with a longer period of incubation in which the symptoms are subacute.

COMPLICATIONS OF URETHRITIS.

ACUTE POSTERIOR URETHRITIS.

THE term "acute posterior urethritis" is applied to inflammation of the membranous and prostatic portions of the urethra. The compressor urethræ muscle forms the dividing-line between the two anatomical divisions of the urethra, known as the anterior and posterior (or deep) urethra, or the pars anterior and the pars posterior. The pars anterior includes the bulbous and pendulous portions of the urethra; the pars posterior, the membranous and prostatic portions. The division is of importance from a pathological point of view, because of the close anatomical relations between the posterior urethra and the epididymis, prostate, bladder, and seminal vesicles. Inflammation of any of these organs is liable to occur with or after posterior urethritis, and when one of them is implicated the presence of posterior urethritis may be taken for granted.

Etiology.—A posterior urethritis may appear any time after the third week of gonorrhœa, or before the third week in cases subjected to improper local treatment or which have not had proper hygienic management, or in cachectic and debilitated individuals. At any time during the course of gonorrhœa the extension of the inflammation to the pars posterior is favored by any mode of living or treatment that tends to congest or irritate this portion of the urethra. As a result of

accident, of injury from instruments, of deep injections, of highly acid urine, or of fragments of calculi, posterior urethritis may appear independently of inflammation of the pars anterior.[1]

Symptoms.—About the end of the third week of gonorrhœa the inflammation, which in favorable cases has been limited to the pars anterior and should now begin to decline, may involve the pars posterior. This condition is usually announced by a more or less sudden increase in the frequency of urination, the patient sometimes being compelled to urinate every few minutes. In severe cases the inflamed mucous membrane of the prostatic urethra becomes so sensitive and irritable that it will not tolerate the presence of the smallest amount of urine in the bladder, and but a few drops are required to excite an uncontrollable desire to urinate, the tenesmus often being excruciatingly painful.

A few drops of blood may appear at the close of each urination, or the hemorrhage may be considerable—sometimes sufficient to pass backward into the bladder and to color all the urine. The perineum may be the seat of burning or cutting pains which may radiate to the end of the penis, to the testicles, the groins, or the back. In the majority of cases the symptoms are not so violent, and the patient complains only of a feeling of pressure and discomfort, with possibly burning, tickling, or slight pains in the perineal region, together with a more or less increased

[1] Many authorities now claim that posterior urethritis is not a complication, but a natural sequence, of gonorrhœa; that it is present in the large majority of acute cases; and that it usually appears during the first week—as a rule, without marked symptoms and independently of local treatment. The questions of etiology, diagnosis, and treatment are at present the subject of active investigation and discussion.

frequency in micturition. There is usually considerable irritation of the sexual organs, manifested in prolonged and painful erections at night, and in frequent seminal emissions, which may be mixed with blood.

When the inflammation involves the posterior urethra the process in the anterior portion often subsides to a great extent, with marked diminution in the discharge from the meatus; and though the reverse may be true, yet the sudden cessation of a gonorrhœal discharge should always lead one to suspect this complication. The acute symptoms in a posterior urethritis usually last but a few days, but the process is generally prolonged in a subacute form and shows a decided tendency to become chronic.

Diagnosis.—The occurrence, during gonorrhœa, of frequency of urination, tenesmus, hemorrhage, or the sudden cessation of the discharge, should lead one to examine for posterior urethritis. The finger in the rectum finds the prostatic and membranous portions of the urethra sensitive; slight pressure increases the pain and tenesmus, but the prostate is not enlarged. Examination with instruments in the urethra is contraindicated, but the urine should be examined carefully by Thompson's two-glass test. This test is based on the supposition that pus secreted in the prostatic urethra cannot pass the compressor urethræ muscle and find its way out through the pendulous portion; but, on the contrary, if more pus collects than the prostatic urethra can hold, it will pass back into the bladder and mingle with the urine, rendering the latter cloudy. If the patient passes the contents of his bladder in two glasses, the first glass will contain urine plus the washings of the urethra, while the second will contain the urine as it exists in the

bladder. If this second portion is clouded by the presence of pus, the latter evidently comes from some portion of the genito-urinary tract back of the compressor urethræ muscle.

The exact localization of the source of pus in the bladder is often difficult and calls for careful microscopical examination, but the presence, during the course of gonorrhœa, of pus in the second glass, together with the occurrence of the above-described symptoms, will point strongly to posterior urethritis. If the urine is passed frequently, there may be times when no more pus will accumulate than the prostatic urethra can hold (when it will all be washed out with the first urine), so that the urine in the bladder will remain clear and will appear so in the second glass. This occasional appearance of clear urine in the second glass will exclude cystitis. In less acute cases, since the amount of pus produced is small, the urine in the second glass may always be clear unless the urine has been retained in the bladder three or four hours. It is important, consequently, that the morning urine—also that passed at the time of the visit—be examined. The degree of cloudiness and the amount of pus in the urine of the second glass give some indication of the intensity of the inflammation.[1]

Treatment.—The general hygienic management is that of gonorrhœa, except that rest is of still greater

[1] The only cloudiness of urine considered in these pages is that produced by pus and mucus. The nature of the sediment in any specimen of turbid urine should be determined by the usual methods of urinalysis or microscopical examination. Gentle heat clears a turbidity due to the presence of urates; acetic acid, that caused by phosphates or carbonates; bacteria and pus can be removed only by filtration.

importance, and in severe cases with much tenesmus or hemorrhage rest in bed, or at least in the recumbent position, is absolutely necessary. Large quantities of bland fluids, such as flaxseed or slippery-elm tea, should be drunk, and the urine should be rendered sterile by the use of boric acid, salol, or salicylate of sodium, in doses of from 5 to 10 grains four times a day. Since marked alkalinity of the urine would favor ammoniacal decomposition in the bladder, it is best to keep the urine neutral, and the dose of alkalies, if given at all, should be small. Copaiba and sandalwood are valuable in most cases, but they may prove irritating, and should then be stopped. If the urine is markedly alkaline and contain pus, it may be advisable to give benzoate of ammonium in small doses sufficient to keep the urine neutral, but if given too freely it will prove a source of irritation.

For the purpose of controlling the pain and tenesmus, suppositories containing morphine (gr. ¼) and atropine (gr. $\frac{1}{60}$) may be used in the rectum, or from 1 to 10 minims of the fluid extract of hyoscyamus may be given every few hours. The use of a catheter is to be avoided if possible, and is rarely necessary if the directions given for the treatment of retention of urine in gonorrhœa be faithfully followed. Allowing the patient to urinate while sitting in a tub of hot water will rarely fail to give better results than the catheter. If the posterior urethritis has come on during the declining stage of gonorrhœa, or if for any reason local treatment of the anterior urethra has been instituted, such treatment must be suspended at once. If local treatment is to be tried, it should be in the form of a direct application to the deep urethra. The methods are described under treatment of *Chronic Urethritis.*