Original Articles.

DEATHS FROM GONORRHOEA.

BY ABNER POST, M.D.

IN looking over the literature of gonorrhœa I have been particularly impressed by the many fatal cases recorded, and the variety of ways in which the fatal termination may be brought about. Every surgeon realizes the immense death-rate from strictures which owe their origin to a gonorrhœa of many years previous, but the fact that death occurs from the acute disease is seldom realized and may even be novel to many. I have taken pains to bring together a series of cases to illustrate the possibility of such an accident and the various means by which it occurs. To judge the disease from such a collection as is here presented would be entirely unfair, but it is not unfair to represent the disease in its most serious aspect as an offset to the trivial way in which it is so often regarded.

Some of the following cases illustrate improprieties in the conduct of the disease, but they serve my purpose well, for some at least, of the severest cases owe their severity to improper conduct on the part of either physician or patient. It cannot be far from the truth, to say that a very large proportion of the severe complications of the disease are directly brought about by some impropriety.

As confined to the anterior urethra, that is, the urethra anterior to the compressor urethræ muscle, the disease is ordinarily harmless, so far as immediate danger goes; yet even here fatalities occur. Voillemier¹ reports a case:

A man with a urethritis and a very painful chordee "broke" the chordee in true French fashion and died of purulent infection. At four and one-half centimetres from the meatus was a complete rupture of the canal, and the cavernous bodies were almost completely destroyed by suppuration.

Another case occurred in the practice of Villeneuve.² The patient was suffering from "intense chordee and continual erection, to relieve which twenty leeches were applied. Two days after a scab formed on the most prominent part of the curve; when it fell off the corpora cavernosa were exposed for a length of three or four centimetres. Rigors, pains in the joints of the upper extremities, purulent effusion into the left elbow joint and delirium followed, with arterial hæmorrhage from the slough on the penis, which caused the patient's death. Phlebitis of the prostatic plexus, metastatic abscesses in the left lung and liver, and pus in the elbow-joint were found after death." Pyæmia is one of the most frequent of the fatal terminations, and follows prolonged suppuration due primarily to gonorrhœa in other portions of the genito-urinary tract, as we shall have abundant opportunity to see later.

When the disease extends beyond the mid-urethral sphincter, as it so often does, it opens up a field of greater danger. In the prostate the gonorrhœal inflammation may be follicular when it is one of the causes of obstinate gleet; or parenchymatous abscesses may form, which may open externally, into the rectum, or the urethra, or in any two of these three

directions. When the pus is discharged through the urethra the symptoms usually vanish with great rapidity. Not unfrequently, however, according to Fournier, the suppuration from a prostatic cavity continues indefinitely and proves fatal after a long period of suffering and cachexia. Dr. Pitman, of St. George's Hospital, reports a case in which the death was rapid.

John E., aged twenty-five, a baker, was admitted April 25th to St. George's Hospital. He had had gonorrhœa for a fortnight, with pain across the loins. Four days before admission the pain increased in severity, and extended down the legs so that he had to discontinue work. He never had any chills. On admission he had much the aspect of a fever patient. He was unable to pass urine except with the aid of a catheter. May 1st, he was delirious with involuntary evacuations. Eight days after admission he died.

Post-mortem. The body was in good condition; there was profuse purulent discharge from the urethra which had collected about the glans penis. The right kidney was healthy, in the left the pelvis and ureter were rather more vascular than usual. Peritoneum healthy. The mucous membrane of the urethra seemed slightly injected in parts, but this appearance was so slight that little reliance could be placed upon it. The muscular fibres of the bladder seemed rather thicker than natural, but showed no trace of inflammation. Between the bladder and the rectum was a large abscess which at the time of the examination communicated with the floor of the prostatic urethra by two ragged orifices. The tissue of the prostate gland was extensively destroyed and eroded by the abscess, and on squeezing the abscess, pus could be made to exude by the prostatic ducts; but in parts near the abscess the tissue of the prostate seemed healthy. The cellular tissue in the neighborhood of the abscess was condensed; in other parts of the pelvis it was healthy.

The account allows us to wonder whether the abscess might not have been due to punctures from the catheter. Be that as it may, the dependence of death upon the gonorrhœa would be undisputed.

In these cases the suppuration itself seems to have been directly the cause of the fatality. It is more often the cause which sets in action some secondary cause. In the *Annales des Maladies des Organes Génito-Urinaires*, (Volume II, No. 9,) is a case in which the abscess of the prostate was followed by pyæmia. A man had had four years previous his first gonorrhœa which lasted six or seven weeks. Two months previous to the date of narration he contracted a second which was nearly well when retention of urine appeared. Catheterism was performed with the effect of causing marked bleeding which continued at intervals for three or four days, until his entrance to the Hospital Necker, under the care of Guyon, where he died shortly, with partial suppression, albuminuria, and uræmia. Autopsy showed the prostate to be the seat of a parenchymatous abscess, which was the cause of the retention, and the posterior urethra was torn by the point of the catheter. The bladder showed in the vicinity of the neck and the trigone very marked inflammatory alterations, the right ureter was dilated and corresponding kidney was intensely congested. There were metastatic abscesses in the lungs, the liver and other organs.

Lallemand gives a case of a man who had frequent

¹ Voillemier, p. 9, Case 8.

² Gazette Hebdom., 1873, p. 210. Quoted in Milton on Gonorrhœa, p. 215.

attacks of gonorrhœa, and died with an abscess of the prostate, and pyelo-nephritis.

Occasionally, gonorrhœal cystitis is succeeded by pyelitis, the inflammation creeping up one or both of the ureters to involve the kidneys. This process is recognized more frequently since infection from external sources has come to play so great a rôle in surgical pathology.

Dr. Murchison reports the following cases: Stephen H., aged twenty-eight, a grocer's assistant, was admitted to the London Fever Hospital on June 4, 1885, in a state of profound coma, with low muttering delirium and dry brown tongue. Three hours after admission he died, having had several attacks of general convulsions. The symptoms obtained were of little value. After his death it was ascertained that he had been suffering for some time from gonorrhœa, for which he had been taking copaiba, and that the cerebral symptoms had come on suddenly only thirty hours before admission. In fact, he had gone to his employment on the morning of the day before admission into hospital.

After death the entire length of the urinary passage from the anterior end of the urethra to the pelves of the kidneys, was found to be in a state of intense inflammation, the mucus membrane being tightly injected and its surface bathed with pus. Both ureters were full of thick, yellow pus. The kidneys were much enlarged, but their outer surface was quite smooth; they were of a deep purple almost black hue and a quantity of dark blood dripped from their cut surface.

Marie D., lady's maid in a nobleman's family, was admitted into the London Fever Hospital on January 31, 1866, quite unconscious; her breathing became stertorous, the stupor more profound, and she died February 2d.

After death it was ascertained that she had appeared well during the day before admission, having travelled on that day from Paris with the cook, who served in the same family. On reaching London in the evening she ate a good meal, but during the night she wandered a good deal, and on the morning of January 31st, she had a convulsive fit followed by unconsciousness.

At the post-mortem the membranes and substance of the brain were found to be intensely hyperæmic, but there was no exudation of lymph and no sign of tubercle within the cranium or lungs.

Both kidneys were in the early stages of acute nephritis, large, smooth and almost black from intense congestion. The ureters and the pelves of the kidneys were full of thick yellow pus, the bladder also contained pus. The lining membrane of the vagina, the urethra, bladder, ureters and pelves was intensely red.³

Delafield has seen one similar case. The patient was a prostitute who came into the hospital with specific (that is, gonorrhœal) vaginitis. After a few days she developed symptoms of an acute cystitis; after a few more days she was attacked with rigors and a febrile movement, passed rapidly into the typhoid condition and died. At the autopsy there were found acute cystitis, pyelitis, and numerous small abscesses in both kidneys.

At the discussion on Dr. Murchison's cases, Dr. Greenhow mentioned a similar case which he saw when he was a student at Edinburgh. A man died in

a state of coma of thirty-six hours' duration. He was supposed to have been poisoned, but was the subject of gonorrhœa, for which he had been taking copaiba, and using injections. Sir William Newbiggin attributed the death to cerebral metastasis from gonorrhœa checked by treatment.

In the summer of 1885 I was asked to examine for stone, the bladder of a young boy suffering from cystitis; he denied gonorrhœal antecedents and his history as given warranted a suspicion of calculus. The examination was made. It was followed by an exacerbation of symptoms, and a pyelitis became evident.

After some months of suffering the boy died, evidently of pyelitis, though no autopsy was obtained. During his sickness a more rigid cross-examination elicited the fact that the cystitis was gonorrhœal. Of course the examination ought not to have been made, the history of gonorrhœa ought to have been learned at first. I am not sure that the disease had not already extended up the ureters when the examination was made, but the increase in severity of symptoms followed very closely on the examination, and the case may well stand as an illustration of the impropriety of meddling recklessly with an inflamed bladder. The ease with which such an error may occur, was illustrated within a very few days. A little boy of thirteen was referred to me at the City Hospital for examination for stone, by a gentleman whose diagnostic ability in urinary cases is well recognized. The boy complained of pain at the end of micturition and the occasional passage of blood in small amounts. He was undersized and looked much less than his years. The house-surgeons recognized him as a recent victim of gonorrhœa, and a more careful review of the case established the diagnosis of gonorrhœal cystitis.

Peritonitis and subperitoneal phlegmon ought to be joined to the number of the possible complications of gonorrhœa.⁴ These accidents are the remote effects of gonorrhœal inflammation propagated from the urethra to the peritoneum or to the subperitoneal cellular tissue through the intervention of the deferent canal, the vesiculæ seminales, the prostate, perhaps from the bladder, the ureters, or the kidneys and from the cellular atmosphere which surrounds them, so that gonorrhœal peritonitis may begin at various points in the pelvic region, at the recto-vesical cul-de-sac, at other times from the internal orifice of the inguinal canal and will always be preceded by more ordinary complications. Peritonitis after inflammation of the cord was observed by Hunter, and Ricord is said by Fournier⁵ to have observed it many times. Ricord is also reported by the same authority to have seen two cases in which gonorrhœal inflammation of the prostate was propagated to the peritoneum, causing at first a pelvic peritonitis which became general and terminated fatally.⁶

The following case is interesting as bearing upon the subject under consideration and also from the distinguished names attached to it.

L. L., aged sixteen, entered the Hospital la Charité June 4, 1856, in the service of M. Velpeau, for a left blennorrhagic epididymitis. The gonorrhœa had lasted fifteen days and the epididymitis five days. The epididymitis proceeded rapidly towards resolution and the discharge had ceased when the patient was taken

⁴ Faucon. De la péritonite et du phlegmon sous-péritonéal, d'origine blennorrhagique. Arch. Gen. de Méd., 1887, vol. ii, page 345 et 386.

⁵ Nou. Dict. V. p. 214.

⁶ Nou. Dict. V. p. 203.

³ Clin. Soc. Trans. Vol. IX, 1876.

with chills and general malaise and vomiting. On the 17th the patient was transferred to the medical service of M. Cruveilhier, and on the 21st he died of peritonitis. The autopsy showed a generalized peritonitis. Pus exuded from the prostate. The left vesicula seminalis contained a small quantity of purulent liquid. That vesicula was larger than the right, and the cellular tissue which surrounded it was very injected and thickened. The deferent canal was greatly injected as well as the surrounding cellular tissue, and it adhered closely to the peritoneum which covered it. The peritonitis had started from the recto-vesical cul-de-sac.

It does not seem very hazardous to say that some, at least, of the cases of peritonitis in the male, of unknown or supposed idiopathic origin may have arisen from gonorrhœa, in one of the many ways mentioned.

Gonorrhœal rheumatism opens up a long list of serious cases, though fatal cases are uncommon. But a short time ago the comparative table of the symptoms of gonorrhœal and ordinary acute rheumatism, which is almost inseparable from an account of gonorrhœal rheumatism, used to specify that gonorrhœal rheumatism did not attack the heart. That is no longer considered a characteristic of the gonorrhœal disease. In 1854, Brandes, of Copenhagen, reported a case of endocarditis, and at least sixteen cases had been reported up to 1883, the date of Mr. Milton's book, in which the cases are collated. Of these, two were fatal. One is given by M. Tixier from the practice of M. Lorain. "There was cardiac complication with bellows sound; also disturbance of circulation, succeeded by signs of mitral insufficiency, with considerable hypertrophy, all following upon blennorrhagia with rheumatic pain. Later on came asystolism succeeded by death from cardiac disease."⁷

In 1833, Mr. Stanley published the paper on "Irritation of the Spinal Cord and its Nerves, in Connection with Disease of the Kidneys," on which was founded the theory of a reflex urinary paralysis. In that paper were narrated two cases in which complete motor paralysis involving the lower extremities and the sphincter, together with loss of sensation, ensued upon gonorrhœa; one was fatal in sixteen hours, the other in about a fortnight with sloughing.

Many other instances of supposed reflex paraplegia following upon gonorrhœa, some of which have ended fatally and some in recovery, are scattered through medical literature. Sir W. Gull has shown that these cases of supposed reflex paralysis from gonorrhœa really depend upon distinct inflammatory changes in the cord, appreciable with the microscope, and that these changes are produced by means of an infection whether purulent or specific. Two of Gull's cases are as follows.⁸

The patient contracted gonorrhœa eight months previous. On January 18, 1855, he thinks he slept in a damp bed and three days afterwards began to have pain and weakness in the legs, and about the neck and occiput. On the 26th, he had a rigor and the weakness of the legs was rather suddenly increased with loss of sensation about the ankles and formication. Incontinence of urine came on at the same time with bed-sores, frequent involuntary spasms of both legs, etc. He died rather suddenly May 16th, four months from the beginning of his symptoms. To the

naked eye the cord showed no changes, but extensive disorganization was evident, was shown by the microscope.

Henry F., aged twenty-one, had gonorrhœa many times and a permanent gleet. He was quite well on Tuesday morning, March 1, 1853. In the afternoon he began to have pain between the shoulders, and diarrhœa. Pain in the back increased during the night and spasmodic tremblings in the legs. On March 4th, at Guy's Hospital under Mr. Bransby Cooper, the following condition was found: complete loss of motion below the sixth dorsal vertebra; the muscles of the seventh intercostal space did not act in respiration; sensation was perfect above the line indicated, but on the abdomen pricking the skin gave no pain and only the faintest sensation; in the legs there was complete anæsthesia. A fortnight later he died, exhausted by irritative fever and sloughing. The cord was generally softened as high as the middle of the dorsal region. Between the bladder and rectum there was an irregular abscess, with sloughing walls, communicating with the bladder by a large perforation of its coats. Near the bulb was a more recent abscess filled with healthy pus.

If these two cases of Gull's stood alone, the association between gonorrhœa, and the changes in the cord and death might be regarded as accidental, but they belong to a series of cases sufficiently long to be quite convincing.

We have seen pyæmia as a frequent cause of death in various complications. Sometimes, however, purulent infection takes place without other appreciable lesion than the gonorrhœa itself. Mr. Milton makes an especial heading of gonorrhœal pyæmia under which he relates two cases, one from Dr. Charteris,⁹ a boy of seventeen with his third case of gonorrhœa with retention of urine for which no cause is given. He died with the usual symptoms of pyæmia and with purulent collections in both shoulder-joints. The second was a man of thirty whose gonorrhœa had already lasted two years.

No attempt has been made to include every published case of fatal gonorrhœa in this list. These are rather some of the cases that have fallen under my notice, and which have been selected to represent the many ways in which the disease may prove fatal. The list might have been very materially — I am tempted to say indefinitely — increased. The results of stricture have been purposely omitted, as well as those numerous cases peculiar to women, in which pelvic inflammation consequent on gonorrhœa wears out the patient with months of suffering.

In these cases the ages are rarely given, but the number of times in which the victim is said to have been a boy under twenty is noticeable. I am inclined to believe that the disease is often exceedingly severe in the precocious youths who acquire it while yet in their early teens. Some of these boys are rather wanting in physical development, and some, at least, would be described as scrofulous — a class exceedingly prone to a severe type of urethral inflammation.

Extended travelling, as in the case of the lady's maid of Murchison's case of pyelitis, is to be feared during the acute disease. It hardly seems possible that the rapid death of that young woman could be attributed solely to her journey from Paris to London; but serious difficulties, short of death, occur often enough

⁷ Milton on Gonorrhœa, p. 316.

⁸ Medico-Chirurg. Trans. t. xxxix, p. 200. 1856.

⁹ Brit. Med. Journal, 1876. Vol. ii, p. 712.

under similar circumstances to make a journey of any length particularly undesirable. Some of the more active occupations entail similar unpleasant consequences.

Finally, these cases serve to emphasize the fact that gonorrhœa may be an exceedingly grave disease, which does not exhaust itself in the urethra, and that its possibilities render it an object worthy of study by the conscientious student, and of honest care by the attending physician.

A CASE OF HODGKINS' DISEASE.¹

BY HAROLD WILLIAMS, M.D.

I WAS called, July 10, 1886, to see Mr. D., a young gentleman, twenty-seven years of age, a chemist by profession, and married. He had been ill since May, 1886, and had come to Nantucket in June, 1886, with the hope that a change of climate might prove beneficial. The history of his illness was nearly as follows: In May, 1885, while out walking, Mr. D. suddenly felt dizzy, and his vision became defective. He walked home with difficulty, his difficulty in locomotion being due, he thought, to an inability to hold himself erect. Previous to this he had been perfectly well. There was no history of malaria nor syphilis. A few days later Mr. D. became totally deaf, and, at this time, a swelling made its appearance over the inner maleolus of the left leg. This swelling increased in size; was intensely painful, and was of a bluish color, but subsided at the expiration of ten days. There was no injury. As the swelling at the ankle began to subside, several smaller swellings appeared in both legs and thighs. These smaller tumors also disappeared, and were, in their turn, followed by a swelling as large as an orange in the right buttock. At this time there was paralysis of the left leg and thigh. This swelling in the buttock slowly diminished in size for three weeks, when it again increased, and again diminished. His physician told him that his spleen was enormously enlarged; and one oculist who was consulted said that his impaired vision was due to hæmorrhage, while a second oculist assured him that there had been no hæmorrhage. This takes us up to Christmas, 1885, on which day the patient went out-doors. After this there was gradual improvement, though it is probable that the swelling in the buttock never totally disappeared, and the deafness still persisted, though slightly improved.

On July 10th, when I first saw the patient, he was in bed. He complained of much pain, and was so deaf that I could scarcely make him understand me. His body was well nourished; the lips were red, the finger-nails pink, and there was no appearance of leucæmia. Pulse 89, temperature 102°. There were three tumors: one on the left side of the thorax, bounded by the sternum, the third rib, the posterior axillary line, and the eighth rib. This was the largest, and I considered it the forward extension of enlarged axillary glands. The second was in the neck, extending downward beneath the left clavicle, and upward to a point two inches above it. I could not estimate its lower boundary, because of the pain caused by percussion. The third tumor was in the right buttock, and seemed to lie above the gluteus maximus. It was as large as

a very large orange. These tumors were very hard to the touch, and the skin over them was of a reddish-blue color, hot and painful, but movable. There was enlargement of the spleen, huskiness of speech, slight difficulty in swallowing, and defective vision. The patient was taking iodide of potassium and small doses of morphia, to relieve pain. This treatment I continued.

On the following day the patient was much worse, and in the afternoon I found him in a semi-comatose condition, from which it was difficult to rouse him. He had vomited at different intervals throughout the day, and there was much difficulty in swallowing and articulation. Pulse 150, and very feeble; respirations 40. The condition of the tumors seemed, outwardly, the same.

The vomiting, feeble and rapid pulse and respiration, and the disturbance of the functions of the larynx, seemed to me to denote pressure by the tumor in the neck on the deep-lying nerves of the trachea, and I warned the family that I considered the case nearly hopeless. Brandy and coffee were given by the rectum.

Instead of dying, as I expected, the patient rallied, and for three days there was slight amelioration of the symptoms, though the tumors seemed outwardly the same. At this time I prescribed Fowler's solution in $\mathfrak{m}$ x doses, three times a day, to be increased up to $\mathfrak{m}$ xx. After this there was constant improvement, although, as the glands subsided, a condition of extreme leucæmia, with furuncles and a carbuncle, supervened. The patient was of a waxen hue, his lips were colorless, and the nails white. To the naked eye, the blood seemed barely tinged with red, and, under the microscope, showed a marked change in the proportion between the red and white corpuscles. As no proper apparatus was at hand, I could merely estimate by what Osler calls "the rough and ready method," that the white corpuscles seemed nearly as numerous as the red.

In October the patient considered himself perfectly well, and there were no symptoms or signs of his illness, with the exception of the deafness, which, though much diminished, was still a cause of serious annoyance.

This case I consider to have been one of Hodgkins' disease, or pseudo-leucæmia lymphatica, followed by leucæmia.² The diagnosis would seem to lie between lymphatic leucæmia and pseudo-lymphatic leucæmia, and is based upon the pathological condition of the blood, and upon clinical differences. In lymphatic leucæmia there is an increase of the white corpuscles, and in pseudo-lymphatic leucæmia there is little or no such increase. In the present case no such analysis was made, but nothing in the aspect of the patient suggested such an increase until the swelling of the glands began to subside. But, on the other hand, the absence of the external appearances of leucæmia; the absence of hæmorrhages and diarrhœa; and the enormous swelling of the glands, would seem to indicate Hodgkins' disease. In either case the prognosis is unfavorable, and doubly so in a case of such long duration as the present.

I have ventured to report this case, in spite of the imperfection of my notes, because it seems to me to demonstrate the decided advantage following the administration of large doses of arsenic, prescribed as it was in this instance, to a patient who had been ill for a period extending over fourteen months. The idea

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 9, 1887.

² Vide case of Fleischer and Ponzoldt, quoted by Osler in *Pepper's Syst. Med.*, Vol. III, p. 633.