LESSON XLVI.

EPIDIDYMITIS.

Manner in which epididymitis occurs—Early symptoms—Anatomy of the testicle demonstrated—Symptoms of epididymitis—Causes of the same explained—Cases in illustration, showing the influence of the passage of urethral instruments in producing the accident—Introduction of bougies shown to be a frequent cause of epididymitis—Necessity of avoiding all introduction of catheters and bougies through the deep urethra except under urgent conditions—Course of an epididymitis—Treatment—Results of epididymitis—Dangers of permanent emasculation—Explanation of the manner in which this takes place—Diagnosis of such accident—Provisions of nature to obviate this danger—Symptoms of orchitis—Acute hydrocele complicating epididymitis—Symptoms—Treatment—Evidences of obstruction of the seminal canals—Manner in which this is produced—Treatment necessary.

One of the most important and interesting of all the complications of gonorrhœa is *Epididymitis*.

W. B., aged 24, tells us that he had a discharge from the urethra, coming two weeks after connection. The appearance of a gonorrhœal discharge, so long after exposure is unusual, but the length of this interval or so-called incubation depends a good deal upon personal idiosyncrasy. Sometimes the patient will feel an irritation almost immediately after contact, which will increase in severity, until within forty-eight hours there will be a discharge. This goes on increasing in quantity, the inflammation keeping pace with it, from ten to even fifteen or more days, until the active stage of the disease has passed. We can usually tell, within four or five days after an exposure, whether a man is going to have gonorrhœa or not, but sometimes the disease comes on very insidiously. If the man is not very observant the first thing he will notice will be yellowish spots on his shirt. How long they have been there he does not know. He has had no pain, no discomfort, but he happens to notice the discoloration on his shirt. The term *incubation*, is usually applied to the period between the

time of coition, and the discovery of the disease. This term is incorrect, for there is no true incubation in this disease. Inflammation is set up immediately on contact, and you might just as well talk about a fire in a coal pile having a period of incubation, corresponding to the time it was smouldering, before its discovery, as to talk of an *incubation* of gonorrhœa. The fire, when ignited, begins to burn at once; it has no period of incubation; nor has the gonorrhœa.

This patient says that the first thing which attracted his attention was a feeling of pain; then, when he examined the locality of it, he found a discharge from his urethra. Undoubtedly the discharge was there before he felt the pain. It continued. Four or five weeks subsequently, his testicle began to swell. Such is the common history of this complication. First, the gonorrhœal disease makes its appearance, goes on for several weeks; finally an *epididymitis* is developed. It is a very rare thing to find an epididymitis coming on sooner than it has done in this patient, unless the patient had had previous disease, which left his urethra in an unhealthy condition. The inflammation passes along the urethra slowly, until it reaches the vicinity of the seminal ducts, which, as you know, are situated within the prostatic urethra. In a very large proportion of cases the inflammation does not reach this point at all; the gonorrhœa is confined to the anterior portion of the canal. But in other cases, from various causes, usually from some excess, or from the use of instruments, injections, bougies, etc., mechanical irritation ensues, or contagious pus is carried down into the prostatic urethra, and an inflammation is set up at that point. Passing on, then, by continuity of mucous membrane, into the seminal ducts, and along the vas deferens, throughout its devious course, it finally reaches the epididymis.

The patient's attention will be called to this latter fact, by slight pain, probably first noticed on crossing his legs, or by some enlargement of the scrotum. This patient says he first felt pain in the lower part of his scrotum, and then it went around into his hips and back. Now this is not peculiar. The patient, you noticed,

pointed to the groin, saying he felt pain there. Then he swung his hand around to his back. There is a reason for this; it shows the course which the inflammation has taken in this case.

I will now draw a diagram of the testicle and its various divisions on the blackboard. Here we have the seminal lobules which are separated by fibrous septa. The seminal canals, which proceed from the lobules by reduplications from here, what are called the vasa recta, from their general straight arrangement; these run up and down as you see here in eight or nine reduplications, forming the head of the epididymis, what is called the coni vasculosi, from their conical form; and here, again, proceeding from these we have farther reduplications, forming the body of the epididymis, and the lower portion, called the tail; then we have this so-called *tail*, terminating in a single canal, which is called the *vas deferens*. Here we see a little vessel, the *vas aberrans*, coming off from it, which is noteworthy, as it sometimes produces an interesting complication called a spermatic cyst. At this point we have the serous covering of the testicle, *tunica vaginalis testis*. The vas deferens runs up along the cord in the inguinal canal, and that is the reason why complaint is made of pain in the groin, in commencing epididymitis. This patient put his hands to his groin when describing the seat of his pain, and spoke of a heavy bearing-down sensation accompanying the pain. This pain follows the line of the vas deferens, from its commencement in the prostate, along the base of the bladder, down through the inguinal canal, over the pubes, to the epididymis. Here the inflammation usually becomes lost in the reduplications of the epididymis, it being but rare that it involves the testis proper, producing what is called an orchitis. This patient's trouble is confined entirely to the epididymis; that alone is swollen; the testicle is not affected.

Now, we may have inflammation, commencing at the seminal ducts,following along the vas deferens for a limited distance and then subsiding before reaching the epididymis. I have had the opportunity of seeing a number of cases, in which the inflammation evidently extended

along the mucous membrane lining the vas deferens, a certain distance toward the epididymis, but eventually falling short of it. I recall a case in point, an instructive one, as illustrating not only inflammatory trouble confined to the vas deferens, but one of the common causes of epididymitis. A man came under my care many years ago with a stricture of the urethra, for the relief of which I treated him by the plan of gradual dilatation. After introducing a soft instrument regularly three times a week for several months the patient came on a day following the use of the bougie, complaining of pain in the perineum, which extended along up the back and along the loins. I sent him home and to bed, and gave him an opiate suppository to be introduced into the rectum. The trouble passed off in a day or two. On another occasion, also following the introduction of a bougie, pain occurred pursuing the same course but continuing down the groin, and caused a little aching in the corresponding testicle. Through use of measures used in the preceding attacks this passed off, and, not yet recognizing the cause of this pain (following a distinct course from the perineum around the bladder and finally extending to the testicle), the instrument was again passed, and this time the inflammation extended down to the epididymis, and the patient had a lively time of it with a swollen testicle for some weeks. Now, the cause of this inflammation, without a doubt, was the introduction of the soft catheter. This introduction of bougies into the urethra I wish you to note is one of the commonest causes of epididymitis. Epididymitis from this cause, I think, is quite as common as that resulting from the simple extension of the inflammation of a gonorrhœa. Within the last three months an old gentleman of my acquaintance, 70 years of age, obliged on account of an enlarged prostate to use a catheter every time he passes his urine, has had two severe attacks of epididymitis, brought on in this way. In this latter case, certainly there could be no suspicion of any other cause than the introduction of the catheter. The appreciation of such cases as this will make you hesitate to use instruments in the urethra when not

absolutely necessary. Still farther to impress this point upon your minds, I will cite another case recently under my care, where a man has had recurrent epididymitis six or seven times. The cause was supposed for a time to be the extension of a gleet with which he had been afflicted, but on inquiring carefully into the circumstances under which the epididymitis appeared, I found that every time he had an attack it was *immediately following the introduction of a bougie* which he was using by advice of his physician. Sometimes he would have an interval of freedom from epididymitis of perhaps one or two weeks, when, on introducing an instrument he would have within twenty-four or thirty-six hours an attack of epididymitis. When I pointed out the probable cause he at once recalled the fact that it did not occur except after the introduction of an instrument. Do not, then, forget that epididymitis may arise from the passage of instruments—bougies, sounds, or catheters—no matter how gently introduced through the prostatic portion of the urethra.

Do not fail to consider the danger of setting up an epididymitis when you are tempted to follow the senseless and dangerous custom of passing a bougie through the entire urethra, and into the bladder for the cure of gleet. If a patient with gleet is to be benefited by the passage of sounds or bougies, it is because he is the subject of *stricture*, and the benefit, when it is afforded in such cases, is through the dilatation of the stricture. This stricture may be, and most commonly is, situated in the anterior part of the urethra, not infrequently at the meatus urinarius alone. Why, then, insist upon passing an instrument into the bladder for relief of an obstruction in the anterior urethra? In all such cases, if you are wise, you will first ascertain the exact locality of the stricture and never pass an instrument to an unnecessary distance beyond it. The anterior urethra, viz., all the part in front of the bulbo-membranous junction, may be treated by dilatation or by division without the slightest danger of setting up an epididymitis. It is in the urethra *posterior* to the bulbo-membranous junction in which all the danger and damage from use

of instrumental measures arises. Not only resulting, in certain cases, in epididymitis, but not a few persons suffering only from anterior stricture *have lost their lives* from suppression of urine, caused by passing a soft bougie through the deep urethra, *for which there was not a shadow of necessity or justification.*

You will observe that the swelling in the present instance is entirely on one side. This is due to the fact that the testicles are entirely distinct organs. They are quite as independent of each other as are the eyes or hands, the reason for which is, that the power of propagation shall be made doubly sure. I will soon call your attention to further provisions in this same direction and speak of the dangers they are liable to from this inflammatory trouble.

In epididymitis the scrotum increases to the size of your closed hand or even larger. It is pyriform in shape, and becomes of a deep red color and exquisitely tender, and is not infrequently associated with a good deal of constitutional disturbance. Fever, nausea, general malaise are not unusual conditions during the acute attack of epididymitis from whatever cause it may be initiated; but of course we have every grade, from that which follows down the vas deferens only a little way, to that which extends through all the convolutions of the vas deferens, through the body of the epididymis and even into the seminal lobules themselves. It may stop at any point, but as a rule we have a more or less feverish condition in proportion to the amount of pain and suffering the patient undergoes. This may continue for eight or ten days and then decline. In this case the trouble has evidently been limited to a small portion of the epididymis. Oftentimes in gonorrhœal epididymitis the discharge disappears entirely until the inflammation of the epididymis passes over. It does not disappear permanently, as you might hope, but, on the contrary, as soon as the inflammation of the epididymis is over, the discharge comes back again to suggest to the unwary a repetition of the instrumental interference which may have originated the difficulty.

With regard to the treatment of these cases of acute epididymitis, the first thing to do is to put the patient on his back. Put him in a condition to rest the inflamed organ, just as you would rest a lame arm or an inflamed finger. And even when he is lying down you should support the scrotum, and this is most cheaply and easily done by cutting off the heel of a stocking, making a hole in either side through which to pass a string and attach it to a band around the body, above the hips. This forms an excellent suspensory bandage and has the advantage also of being large enough to allow of applications to the scrotum. Poultices are very excellent, or hot applications of any kind, all that has been said in favor of the application of ice to the testicle to the contrary notwithstanding. Hot applications in my experience have served a better purpose than anything else; and the hotter they are, and the more constantly they are applied, the better the results. You can get beneficial results also from the use of anodynes or narcotics. Strammonium, opium, tobacco, are all valuable, applied in poultices over the inflamed epididymis. I like tobacco better than almost anything else for this purpose. This may be used by taking a third of a ten cent package of chewing tobacco, and mix it up with a hot poultice of ground flax-seed of sufficient size to cover the scrotum completely. There is no better application according to my experience than this. And if the effect of the tobacco is, as is sometimes the case, to produce a little nausea, the beneficial effects upon the epididymitis will be enhanced by just so much. The old-fashioned treatment is not much in vogue now. It was rather disagreeable and heroic. It consisted in giving tartar emetic and Epsom salts in combination so as to produce a pretty free effect of both of these remedies; keeping the patient well nauseated and his bowels running off with watery discharges. This used to be considered the best mode of treatment. There can be no question about the value of depressants, even of nauseants, in this condition. I remember many years ago, when surgeon at sea, to have occasionally seen patients who came on

board ship with acute epididymitis. But I would then lose track of them for three or four days, and finally when again consulted would find them almost well. During this interval they had been suffering with seasickness. I have seen epididymitis improve rapidly under this treatment, if it may be so-called, thus proving the value of depressants, and nauseants in the management of this disease. It is quite possible that their use was originally suggested in this way.

Support is one of the best means of relief and cure. Support from the beginning to the end of the case. Support even before the beginning of the epididymitis, during the latter stages of gonorrhœa, when you may suspect that the inflammation is creeping back into the vicinity of the seminal ducts. By supporting the testicle at this time it may very quickly ward off an attack of epididymitis. Nothing is so conducive to the development of an epididymitis, under favoring conditions, as an unsupported, down-hanging testicle and a standing patient. Therefore you should always bear in mind during the later stages of a gonorrhœa the liability to this trouble, and the means of preventing it. Give support, then, before the epididymitis takes place, and after it has taken place, and during its entire continuance. Do not discontinue it until after all tenderness and swelling have disappeared. Now, that is all I have to say about the treatment of the acute stage of an epididymitis. This is not a serious condition so far as the pain and confinement are concerned. The general discomfort resulting from an attack of epididymitis does not amount to much, comparatively. It may keep a man suffering during a week or a fortnight; it may bother him for four or five weeks, or two months; but this is as nothing compared with the real injury which may be going on perhaps without our knowing anything about it, and that is, the stoppage of this little vas deferens which carries the seminal fluid from the testicle to the urethra. You can see how long it is, being convoluted upon itself, capable of being ravelled out for a considerable distance, many yards. A plug of inflammatory material may obstruct this at any point,

and if it does so it will just as thoroughly emasculate the man, for the time being, as if he had his testicle removed. Now a man who has an epididymitis, is very apt indeed to have some of this plastic material which has been thrown out during the course of the inflammation, remain in the head of the epididymis, plugging up the seminal canal at some part of its course. In a great many cases you will find a hard nodule just above and behind the testicle, and this means that the plastic material obstructs the epididymis at that point, so that the man is hermetically sealed so far as the use of that testicle is concerned. Then let the same accident occur to the other testicle and his case is a pitiable one, and yet that is the case of a great many men in the community. There are many men who have no children and wonder why, who, if they would recall their early experiences, would remember that they had at one time a swollen testicle, and again at another time another swollen testicle, and who might recognize in this fact an explanation of their sterility. Even years after, you might feel a knot of plastic material in the epididymis which has been the cause of the trouble.

Now, nature has made provision against accidents in a very simple way, by giving a man two testicles; and yet it is very evident that the inflammatory accident was not calculated on. Nature has been very liberal in her provisions for the insurance of the procreation of the species, and especially to preserve the virility of man. These provisions exist chiefly in the body of the testicle. Here you see the testicle is divided up into twelve or thirteen or more spaces or partitions, each one of which contains a seminal lobule; and each one of these is potent to secrete spermatozoa enough to beget as many children as it is ever necessary for one man to beget. An injury may interfere with the integrity of one or more of these lobules, and yet if one remains healthy the man is perfectly virile; perfectly able to beget children. The inflammation, as I have said before, rarely gets down into these lobules, but when it does, constituting a true orchitis, the pain is so much the greater that this pain sometimes announces

the fact at once. The difference between the pain of an acute epididymitis and that of an orchitis may be illustrated by the old comparison between gout and rheumatism. Some man who knew about it defined rheumatism in this way: if a man puts his thumb into a vice and turns it up until he can't possibly stand it any longer, that is rheumatism; then give it another turn or two and that is gout. So with the man who has epididymitis: he thinks he has all the suffering that he can stand; give him another turn or two and he has an idea of the pain of orchitis: that exceedingly unbearable inflammatory pain which is caused by the unyielding character of the envelope of the testicle, which is composed of white fibrous tissue and is known as the *tunica albuginea*. The epididymis lies in cellular tissue to which the inflammatory action is readily communicated, and thus there is no reason why it should not swell, and it does often swell very greatly without producing a great deal of discomfort. The swelling is not great in this patient: the scrotum is not tense; the tunica vaginalis is not prominent; but remember that this inflammation, instead of limiting itself to the cellular tissue, may pass through it to the tunica vaginalis, the serous membrane which supplies the sac with its lubricating material. This fluid increases very much in quantity in inflammation of this serous membrane; and the distended tunic presses upon the testicle to such a degree that very great pain often results, as well as considerable constitutional disturbance. You will find the parts tense and the man complaining of unbearable pain. When you put your finger on the tumor and find that it fluctuates you know at once what you have; you know that the inflammation has extended to the tunica vaginalis, which has given rise to an increase in the serous fluid which is producing the aggravation of the patient's troubles, and which can be removed with great advantage. In all these cases as soon as you get fluctuation you should put in the needle of your hypodermic syringe and draw out a drachm or two, or more of this fluid. It will usually be straw-colored, but if the inflammation run pretty high it may be somewhat pink-

ish in color. Drawing off this fluid relieves the pain at once. I have been called to cases where the pain was extreme; which could not be relieved by opiates, but which subsided immediately after withdrawal of a small quantity of serum by means of the hypodermic syringe. If you will remember to do just this little operation in accordance with the indications I have described, you will gain great credit, for it will give relief from the extreme pain as nothing else will do.

But we must never forget the grave accident previously mentioned, which is often associated with inflammation of the epididymis—this stopping up of the seminal canal at some point. Remember that when the inflammation has subsided, the surgeon's duty in the case is not ended. He must ascertain whether there is any hardness left at any point, and if so put the patient on a course of treatment just like that which we have recommended in cases of syphilis, and for the very same reason. We have, as I have often told you, a lot of foreign material, healthy enough; it does not necessarily produce any irritation, but it is foreign material, because it is not wanted. It is obstructive just as the same sort of material is obstructive in syphilitic trouble. We want to get rid of this, and the only way we can get rid of it is by fatty metamorphosis, and we want to use the remedy which is best calculated to effect this result. Now, hot fomentations may do it by increasing the excitement there, and giving the blood-vessels more calibre so as to enable them to carry away the material, but they will not do so much good after the active stage of the disease has passed away. This shows how important it is to have our treatment of the inflammation in the first place as complete as possible; and to neglect none of the means which will aid in reducing the inflammation, and in carrying away the products of inflammation. But there is something more potent than fomentations in carrying away the products of inflammatory action; and this is *mercury*. We apply the oleate of mercury locally on these indurations, and if we are wise we will give it internally until we find the material composing them under its influence melting away, and the vas deferens restored to its normal patency. This is a point of great importance, and it cannot be dwelt upon too strongly, or made too prominent in considering this subject.