

ART. V.—*Observations on the Diagnosis and Complications of Stricture of the Urethra.* By SAMUEL G. WILMOT, M. D., Surgeon to Steevens' Hospital; Lecturer on Surgery in the Carmichael School of Medicine, &c., &c.

IN viewing any disease in a purely practical light, were we to consider it *abstractedly*, we should be often led to entertain a very imperfect idea of the nature and the difficulty of the task which the practitioner must in general perform. This observation applies with peculiar force to stricture of the urethra. If this disease be contemplated *abstractedly*, as a mere narrowing of the urethral canal, by which obstruction is offered to the escape of the urine from the bladder, we take but a very partial view of the case, and greatly under-estimate the difficulties which beset the surgeon in dealing with it; but if we regard it in all its bearings—in relation particularly to its differential diagnosis, its complications, pathological effects, &c., a wide field is opened, which it demands no little labour to traverse, and no small degree of sagacity to explore.

It must be remembered that every case of difficult micturition is not necessarily one of stricture, though the cause may lie in the urethra. There may be force and increased frequency in expelling the urine, as well as diminution in the size of the stream, and still no stricture exist; nay, more, in the absence of urethral lesion need there be any mechanical impediment whatsoever, prostatic, calculous, or otherwise, to the evacuation of the bladder. Further, there may on the one hand be all the symptoms of obstruction to the escape of the urine, and on the other a decided impediment to the passage of some kinds of instruments along the urethra, without stricture, in the accurate sense of the term, being present. Peculiar states of the bladder and of the urethra, in which there exists no mechanical obstacle to the expulsion of the urine, will assume all the characters of the latter disease. There are thus many sources of deception both to the individual himself and to the surgeon, which may lead to great mistakes; hence it becomes all-important to attend carefully to the differential diagnosis of stricture of the urethra. Want of proper contractile power in the bladder may cause the semblance of stricture. In this case the urine is feebly expelled; force more or less must be exercised by the abdominal muscles, and the stream is consequently diminished in size. Sometimes the urine escapes only in drops, or falls perpendicularly between the patient's legs. This condition, it is well known, is in many instances the prelude to paraplegia, being the first signal given

of the paralysis which is about to supervene. Often, however, atony of the bladder is quite unconnected with the cause here mentioned, and seems to result from various circumstances. Sometimes it would appear to depend on a relaxed state of the entire system, and is then benefited by whatever tends to give general vigour, and occasionally it can be traced to the custom of retaining the urine for a long time. Boys frequently acquire the habit of holding their urine for several hours consecutively. This gradually destroys the natural sensibility of the bladder to its ordinary stimulus; and when they grow up, and are placed under circumstances which render it inconvenient to obey the call to micturate as often as it may be experienced, they can readily resist it. Thus by degrees the organ loses its tone, and becomes unable to expel its contents except slowly, feebly, and in a narrow stream.

But exactly an opposite condition of the bladder, one of *increased* contractile power, is equally a source of deception, by leading to the manifestation of the symptoms belonging to stricture. The bladder acts frequently; hence the body of urine in the organ being small, the stream from the urethra is small also, and as there is great urgency and force in expelling it, the case necessarily wears all the appearance of an obstruction in the canal. It is obvious, then, that two precisely opposite states of the bladder will cause the exhibition of the rational symptoms of stricture, and to such an extent, that the only means of dissipating the illusion, and clearing up all doubt, is to resort to the introduction of an instrument.

Again, similar states of the urethra—diminished and increased contractile power—may produce such an effect on the stream of urine as to make the case simulate stricture. The urethra may be altogether in a relaxed and flabby condition, and the contractile tissue with which it is surrounded, be it muscular or not, and which undoubtedly assists in the final expulsion of the urine, may lose its tonicity, so that the canal can lend no more aid to the bladder in micturition than if it were a tube constructed of some inanimate material; accordingly, the urine can only be expelled in a slow, feeble, and scattered stream. This state of the urethra often affects its entire length, in which case it is met with generally in persons of nervous temperament, particularly such as have suffered from aggravated dyspepsia, or who have enfeebled their health by long-continued habits of dissipation. Sometimes, however, and the cases are rare, this relaxed condition of the urethra is partial, occupying the portion in general which corresponds with the root of the scrotum, and then a remarkable effect is

produced. The urethra having lost its natural elasticity and contractile tone at one spot, cannot here resist the force of the urine as it impinges against it; accordingly it yields, and gradually becomes expanded into a sort of dilatation, which constantly retains more or less urine. When pressure is made with the fingers on the perineum, corresponding with the distended spot, a jet of urine is suddenly jerked out, and when the patient walks about, there is a continual stillicidium which keeps his clothes wet, and deprives him of all enjoyment. The collection of urine in the urethra must of course impede the escape of that from the bladder; force must, therefore, be exercised in order to expel it; the stream for the same reason is reduced in size, and some pain is often experienced; hence the case, so far as outward characters go, exhibits the strongest likeness to stricture. This remarkable and interesting pathological condition of the urethra would seem in general to have its origin in chronic inflammation of the lining membrane, to a limited extent, which gradually extends to the other tissues of the canal, destroying eventually its elastic and contractile properties; and, indeed, if the urethra be furnished with a *true* muscular coat, it is easy to conceive, reasoning from analogy, how inflammation of its mucous coat will lead to paralysis of the former, and consequent dilatation, as in the case of other muscular tubes, the intestinal one for example. Many persons who have never had the least tendency to stricture find that some time after passing water several drops of urine will escape when they sit down, or happen to make pressure in any way on the perineum. This arises from a deficiency of expulsive power in the urethra, and where the individual is in the habit of voiding his urine hurriedly, without waiting to expel the last drops completely, the relaxation of the canal gradually increases. If in this state the urine should become highly stimulating, as it is apt to do in gouty subjects from excess of lithic acid or lithate of ammonia, the drops retained in the urethra act as a constant source of irritation to the lining membrane; and if, as is so likely to be the case, there be neglect of the proper treatment, and an over-indulgence in the use of wine or ardent spirits, inflammation becomes established, and this gradually leads to the dilatation of the canal which has been described. This change is *essentially* of very slow formation, but a remarkable case, and one not easy to account for, in which it occurred comparatively with rapidity, once fell under my notice.

A man, aged forty years, addicted to the occasional use in excess of ardent spirits, married, and having a family, was suddenly seized with painful erections at night, which were fol-

lowed, in many instances, by seminal emission. This condition lasted for a fortnight, at the end of which time he perceived a slight puriform discharge from the urethra, accompanied by pain and difficulty in making water. The discharge disappeared in a few days, but the pain and difficulty in micturition continued, and gradually increased. After the lapse of about two months a new and remarkable feature attracted the patient's attention. He observed that, for some time after each evacuation of the bladder, when he walked about, a considerable quantity of urine invariably dribbled away so as to keep his clothes wet, and that on pressing the perineum with his fingers, in one spot, a small stream was ejected. In this state he applied for surgical relief.

There was no discharge from the urethra, nor any evidence whatsoever of gonorrhœal inflammation, and he asserted in the most positive manner that he had not contracted that disease for many years. On examining the perineum, I found that at one spot, just at the root of the scrotum, and a little to the right of the mesial line, slight pressure caused the expulsion of a considerable jet of urine; no decided bulging of the canal, however, could be detected, even when the patient made the effort to evacuate the bladder. Wishing to ascertain if there were any obstruction in the canal, I introduced an instrument, but a full-sized silver catheter passed with ease.

It is difficult to account for the phenomenon presented in this case, considering the comparative rapidity with which it was developed, and the peculiar symptoms which preceded it. There was obviously no stricture, so that the dilatation was not, primarily at least, mechanical. If there had been any laceration of the urethra during the violent erections which marked the commencement of the case, hemorrhage more or less should have been observed, still, such was not the case; and then it may be asked, what was the cause of the erections? It was evidently not gonorrhœa. Did the cause of this peculiar affection lie in any particular state of the urine? At the time the patient applied to me, this secretion was normal. Was the origin of the case ulceration of the lining membrane, leading to the formation of a sac which held a direct communication with the canal? There was not any evidence of such a condition, which is so very rare, where no mechanical obstruction exists in the canal; there was no perceptible bulging of the urethra, no tenderness on pressure over the dilated spot, no puriform discharge, nor other sign of a urinary sac formed by ulceration of the lining membrane. It is clear that the

dilatation of the urethra resulted from partial atony of its elastic and contractile tissues; but what was the cause of so comparatively sudden a change in this case cannot be satisfactorily explained.

Now, as in the case of the bladder, so in the urethra; a state of increased contractility, a condition exactly the converse of the last, will give rise to all the appearance of genuine stricture. This leads materially to the consideration of the muscularity of the urethra; but it would be foreign to our purpose to enter here at any length into a discussion on so vexed a question. Every one who has read anything of the physiology and pathology of the urethra is aware that many years ago John Hunter advanced the doctrine that it is unequivocally muscular; his opinion, however, was altogether inferential, being based on the phenomena presented by the normal and abnormal actions of the canal. Sir Everard Home warmly embraced similar views, which were shortly afterwards corroborated by the researches of the distinguished microscopist, Bäuer. At this time, however, the microscope, as an optical instrument, was imperfect; hence Bäuer's description of those fibres, which were set down to be muscular, was inaccurate. But within the last few years, a period marked with such rapid progress in microscopic research, demonstrative proof that the urethra is furnished with minute involuntary muscular fibres seems for the first time to have been clearly afforded; and to Kölliker and Hancock, particularly the latter, is undoubtedly due the credit of having pointed out satisfactorily most that is now known of the exact situation and distribution of these fibres.

Unfortunately, however, for the settlement of the disputed question, as to whether the urethra be muscular or not, the arguments relied on as proving its muscularity can be explained on different suppositions; hence, many eminent authorities have denied the existence of an organic muscular tissue belonging to that canal, and have referred certain peculiar actions manifested by it variously to mere elasticity, to "vital contractility," to turgescence of the lining membrane, and to the action of the erectile tissue. There is no doubt that the phenomena presented by the urethra, as they are observed in its normal and abnormal states, are more *satisfactorily* explained on the supposition that the canal is muscular, and this view is supported by analogy; but the decision of the point can only be positively settled by appeal to the microscope; no other means can afford conclusive proof (since it is demonstrative) of the presence of muscular fibres if they exist. And now comes the

question, considering the optical power and perfection of the instruments in use at the present day; and the distinguished authorities, not alone Kölliker and Hancock, but Quekett and others who have equally devoted themselves to microscopic research, and have borne testimony to the existence of the involuntary muscular fibres alluded to—can there be any doubt or source of deception regarding them? But whether we view the doctrine that the urethra is muscular as a reality or not, is immaterial in a practical light, since it cannot be denied that the canal possesses a marked contractile property which is the cause of many remarkable phenomena it presents under certain conditions. It is this contractility of the urethra, exalted to a high pitch by peculiar states of the nervous system, as well as by the influence of weather and climate, which, most of any condition yet mentioned, assumes the characters of true stricture, and is accordingly a source of great deception. Persons of a highly nervous, irritable habit, whose digestive functions have been impaired for many years, are apt uniformly to void their urine in a narrow stream, though no trace of stricture be present, nor any of the ordinary causes of the disease having ever been in operation; and on occasions when these individuals are subjected to excessive mental anxiety, there is often so much difficulty of micturition as to amount to retention of urine.

When matters go so far as this, spasm of the voluntary muscles always co-exists; but in the slighter, which are the ordinary cases, the contraction of the canal is altogether independent of the action of the compressores urethræ muscles, and is referrible entirely to that tissue which, as already observed, is, according to microscopic demonstration, composed of minute involuntary muscular fibres. Most frequently the contraction of this tissue is uniform, but sometimes it would appear to be partial, by which a sort of slight annular constriction is formed capable even of offering a feeble resistance to a bougie of moderate size, and this may be situated in any part of the canal from the orifice to the prostate gland. It is easy to conceive how such a state may be confounded with incipient organic stricture. In either case the stream of urine is necessarily reduced in size, and some force is required in order to expel it. We see, therefore, that two exactly opposite states of the bladder and of the urethra—one of augmented and diminished tonic power—will lead to the manifestation of the rational symptoms of stricture. In all such cases we can arrive at a negative diagnosis by introducing an instrument, when, if it pass without meeting any decided obstacle, we must con-

clude that stricture is absent. But, as has been intimated at the commencement of these observations, a decided obstruction to the passage of an instrument may be experienced in the urethra, and still no stricture, properly so called, exist; this is, indeed, a source of strong deception, for here we have the *sensible* sign of stricture, and when, as frequently occurs, the rational symptoms co-exist, the similitude of the case to the *real* disease is complete. Such cases demand the utmost circumspection, without which serious mischief may be done to the urethra by the use of instruments, and where great care be not taken, even the most experienced surgeon may be altogether misled. Undoubtedly the most common impediment to the introduction of an instrument, apart from stricture, is enlargement of the lacunæ of the urethra; in this way pouches are formed, into which the point of an instrument of small size, particularly a straight one, readily enters, and its onward course is intercepted. This condition is most usually met with where stricture is present, but it is occasionally found as the result of long-continued irritation of the mucous membrane where not the slightest reduction in its caliber exists. The lacunæ, as it is well known to anatomists, lie on both the upper and lower aspects of the urethra, but particularly on the lower; the "*lacuna magna*," however, occupies the upper, about an inch or an inch and a half from the external orifice, and this is the pouch into which the point of a small instrument is so apt to slip.

Another impediment to the passage of an instrument along the urethra is an exaggerated condition of the natural rugæ of the mucous membrane; these frequently become enlarged and thickened in such a manner that the point of a moderate sized instrument cannot fail to hitch against them, though they may be unable to produce any sensible obstruction to the escape of the urine. Sometimes, however, the contractile fibres of the urethra are at the same time thrown into undue action; the rugæ, therefore, become closely approximated, and the folds are rendered more prominent; accordingly, the caliber of the canal is somewhat diminished, and the stream consequently reduced in proportion; the obstruction to the instrument is also increased, so that the case bears the strongest resemblance to stricture; and the deception is the greater, since it is in the most common localities of the latter disease—the bulb and membranous parts—that the rugæ chiefly abound.

But it is towards the neck of the bladder that obstacles are apt to be encountered, which are really mere exaggerations of the natural state of the parts, or only trifling deviations from

it. In the prostatic portion of the urethra a complete stoppage may be given to an instrument, though there be no contraction whatsoever, nor any enlargement of the gland. The prostatic and ejaculatory ducts are sometimes considerably dilated, the sinuses on each side of the verumontanum become deepened very often, and in other cases the septa intervening between the dilated mouths of the prostatic ducts form bands which cross each other in various directions, constituting a complete network; in all these conditions it is evident how the point of an instrument may hitch or become entangled. Again, the "uvula vesicæ" sometimes becomes enlarged and elevated, and projects into the internal meatus of the urethra in such a way as to offer direct opposition to the introduction of an instrument into the bladder. Very frequently a band of mucous membrane (quite distinct from what has been termed the "bar," at the neck of the bladder) becomes stretched transversely across the inner opening of the canal, which both obstructs the entrance of an instrument into the bladder, and interferes with the escape of the urine from it; this condition is often met with in persons who have never had gonorrhea, and usually in those who possess a relaxed and flabby state of the entire canal, such as has been already described.

The foregoing are most of the deceptive impediments experienced in exploring the urethra; and it is quite obvious how easily the surgeon may be drawn into a mistake which may prove, if not absolutely productive of serious consequences, at least of much perplexity and annoyance, not only to himself, but to the patient. In all the states of the urethra detailed the diagnosis rests on—whether it be possible to pass a full-sized instrument or not; in the case of enlarged lacunæ, of thickened rugæ, of prominent "uvula vesicæ," of the transverse fold at the internal orifice of the canal, and of the network which has been described as being occasionally situated in the prostatic part, a large instrument will pass readily, while a small one necessarily hitches, or gets entangled; hence it becomes of great importance always to use a full-sized instrument in exploring the urethra, with a view to the discovery of stricture. When the impediment lies anterior to the bulb a straight instrument will pass with greatest ease; but when it lies far back in the urethra, or at the neck of the bladder, a curved one must be employed.

It too frequently occurs, when a patient applies to a surgeon, complaining of difficulty in micturating, for the latter to prejudge the case immediately, and to set it down as stricture; this leads him to explore the urethra with a small instrument,



in consequence of which he is very apt to encounter some of the deceptive obstacles already enumerated; he, therefore, becomes confirmed in his previous belief, and instead of resorting to a large instrument, which would, in all probability, readily pass, and thus reveal the true nature of the case, he descends in the scale of sizes, whereby not only is his chance of succeeding diminished, but the lining membrane of the canal seldom escapes laceration. We see, then, how numerous are the sources of deception connected with the diagnosis of stricture of the urethra. In some instances the rational symptoms of the disease are exhibited *per se*, in others the sensible sign; while in many both are combined; there may be difficulty, pain, and frequency in passing water, and the existence of an obstacle to the introduction of an instrument, without stricture, in the correct sense, being present.

But, as in the case of most other diseases, the difficulty and trouble involved in the diagnosis of stricture of the urethra is not confined to the distinguishing it from what, in many instances, may be termed spurious forms of the disease; it embraces the recognition of the different species of true stricture, and the discriminating these one from the other. This leads to the classification of strictures; but since to enter here on so extensive a field would be outstripping the limits assigned to the present communication, we shall pass on to the second part of our subject, viz., the complications of stricture of the urethra. Here, again, what a wide scope is afforded for practical study.

The most common complication attendant on organic stricture is spasm, constituting the "mixed stricture" of authors; indeed, there are few cases with which more or less spasm is not occasionally associated, and there is no occurrence more annoying to the patient and perplexing to the surgeon than this, since it varies so much, on the one hand, the capability of passing urine; on the other, that of introducing an instrument. The spasm in these cases is undoubtedly of two kinds: one resulting from the action of that tissue composed of the so-called involuntary muscular fibres; the other from the contraction of the voluntary or Wilson's muscles. The latter is the principal and most important kind of spasm which complicates stricture, for it is impossible that muscular fibres, so minute as to require for their demonstration a magnifying medium of the highest power, can contract so as to produce a forcible closure of the canal; hence Sir Benjamin Brodie's statement, that spasm can alone occur at the membranous part of the urethra, though not exactly correct, according to recent discovery, is in a practical

sense, perhaps, perfectly true. In almost all cases of organic stricture, spasm is apt to be excited by exposure to cold, wet, or much fatigue, or by too free an indulgence in the pleasures of the table, particularly in the use of wine or spirits, and very frequently it is caused by rudeness in the introduction of instruments. In some instances, however, the proneness to spasm is so strong that the most trivial causes will induce it, and sometimes it would appear to occur without any assignable cause, or to be produced entirely by mental influence. The latter is so powerful a cause of spasm of the compressores urethræ muscles, that there are some well authenticated cases on record in which retention of urine has occurred from it alone, there being no organic stricture, nor any appreciable lesion of the canal. But the extreme disposition to spasm which marks some cases of stricture would appear to arise from one of two causes,—irritability of the system generally, and irritability of the urethra itself. The first condition occurs in persons of a highly nervous temperament, and particularly in those who have led a luxurious or dissipated life, and very frequently it is connected with and seems to depend on dyspepsia and derangement of the hepatic function. The second condition—local irritability—is the great source of spasm, affecting organic stricture. It consists in a high degree of sensibility—“*morbid sensibility*”—which is a state *minus* inflammation, and this involves not only the stricture itself, but the urethra in its vicinity, to a varying extent; sometimes it appears to occupy the entire canal, and even to extend to the neck of the bladder, leading to very distressing symptoms, which may simulate those of vesical calculus. This is what many writers have denominated “irritable urethra.” In such cases there are always some scalding and frequency in passing water, and in general slight puriform discharge, together with a remarkable fluctuation in the ease with which micturition is accomplished, all which symptoms are greatly aggravated by taking stimulants, by sexual indulgence, and over-exercise. When the stricture is incipient or but slight, an instrument of considerable size will pass, and more readily always than a small one; but as it glides over the diseased spot, particularly if that be situated in the membranous part of the canal, smart pain is experienced. This irritable state of the urethra appears, in many instances, to be connected with irritability of the system at large, such as has been already alluded to; very often, however, it is *purely* local, and may be the result of a stricture being neglected or mismanaged, or it may be the effect of one or more attacks of gonorrhœa during the formation of a stricture. In not a

few instances the disease obviously depends on gout; and even where it acknowledges another and more efficient cause, the coexistence of a gouty diathesis will not fail to aggravate the symptoms.

When the urine is rendered highly stimulating from excess of lithic acid, and the lithates—a circumstance so apt to occur in gouty subjects—all the urinary annoyance is increased fourfold; the scalding and frequency in micturition are augmented, and the spasmodic action of the muscular fibres may become so strong as to close the canal completely. Occasionally, though no doubt very rarely, where there is much spasm, and consequently more than usual slowness and difficulty in emptying the bladder, the urine becomes filtered, as it were, and deposits a slight calcareous crust of lithate of ammonia within or behind the stricture. When such an event occurs, the urinary distress assumes often a very urgent character.

A gentleman was recently under my care for stricture, coupled with irritable urethra; he possessed a well marked gouty disposition, and suffered to a great extent from dyspeptic symptoms. Whenever he attempted to depart in the slightest degree from his ordinary food or drink, his urine became loaded with lithic acid or its salts, and this never failed to add to the local annoyance from which he suffered. After he had been under treatment for the stricture for a short time, and had been considerably relieved, he began to complain, without any apparent cause, of a return of his former symptoms, which gradually increased, and amounted to such a height, that it was with great difficulty and extreme pain he could empty the bladder. I immediately suspended the use of the instrument, but anodynes, and the ordinary treatment for inflammation of the urethra, were unproductive of the slightest benefit. At length, in a paroxysm, he expelled from the urethra a small cake of lithate of ammonia, to the complete relief of all his pain and distress.

The two kinds of spasm which have been described constantly occur separately, but often they are combined, the entire canal being in a state of undue contraction, in such cases the difficulty of micturition is considerable, and the surgeon feels, almost immediately upon introducing a bougie, long before it can arrive at the stricture or membranous part of the urethra, a certain degree of resistance or slight grasping of the instrument. This state varies remarkably: one day the individual is able to void his urine in a tolerably full stream, and a bougie will pass with facility; the next day,

owing, perhaps to wet, coldness of weather, or to some derangement of health, the urethra becomes universally contracted, and the instrument in ordinary use is grasped before it has traversed hardly one inch of the canal.

Another complication with stricture is spermatorrhœa, and this proves a source not only of mental anxiety to the patient, but leads often to extreme physical debility. Frequent nocturnal emissions may constitute a symptom of stricture under any circumstances, but most usually are associated with the irritable state of the urethra just described; the "morbid sensibility" often extending into the prostatic part of the canal, and thus proving a direct cause of irritation to the seminal ducts. It must be remembered, however, that the coexistence of spermatorrhœa with stricture does not necessarily imply the relation between them of cause and effect; the former may have been antecedent to the formation of the latter, being the result of various circumstances. In such cases the cure of the stricture is, of course, not followed by the cessation of the seminal emissions; but where the spermatorrhœa has occurred subsequently to the first symptoms of stricture, and seems to depend on it, or on "morbid sensibility" of the canal in connexion with it, obviously nothing short of the complete removal of these states can lead to a cure of the spermatorrhœa.

A third complication with organic stricture, and one which is particularly worthy of note, is pain and swelling of the prostate gland. Care must be taken not to confound this sympathetic affection with that chronic enlargement of the organ which occurs in advanced life, and which has no dependence whatsoever on stricture; the former disappears when its cause—the stricture—has been removed. Sometimes, though rarely, the sympathetic swelling of the prostate passes into acute inflammation, and may even suppurate. Sir Benjamin Brodie makes two very important practical observations on the sympathetic affection under consideration. He says:—

"1st. Where a simple chronic enlargement of the prostate gland supervenes on stricture of the urethra, the latter usually becomes less liable to spasm, and is more easily dilated, and altogether more tractable than it was before: a change in its condition which is easily explained; as the pressure of the urine against the stricture, when the patient strains in making water, is a constant source of irritation, which is, in great measure, removed as soon as a new impediment to the flow of the urine between the stricture and the bladder is established, by the tumour of the prostate.

"2nd. But where the disease of the prostate goes beyond

a mere enlargement, and suppuration has taken place in its substance, an opposite effect is produced on the stricture; the abscess itself becoming a source of irritation, rendering the stricture more sensitive, and more liable to spasm than it would have been otherwise."

There are many other morbid states found in connexion with stricture of the urethra, which may be viewed as complications, but they come more conveniently, perhaps, under the head of "the effects" of this disease, such as irritable bladder, swelling of the testis and epididymis, hydrocele, dilatation of the urethra, &c., &c.; but to enter upon the consideration of these would be to enlarge far too much the extent of the present communication. By it the principal object intended has been to invest with importance the differential diagnosis of stricture, to point out the various sources of error by which the surgeon may be misled; and surely, though more serious mistakes can be made, there is none more *humiliating* than to keep a patient for months under treatment for stricture, aggravating his case, when the occasional introduction of a large instrument, and a course of tonic medicines and sea-bathing, would effectually remove all the symptoms.

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ART. VI.—*Observations on Thoracic Aneurism: with Cases.* By JOHN POPHAM, M. D., Physician to the Cork North Infirmary.

THE diagnosis and treatment of aneurisms form a subject of deep interest, but of varied results, to the physician and the surgeon. The cases which usually fall within the province of the physician, comprising those internal changes which the arterial trunk itself undergoes, are viewed by him not without despondence, as he has to deplore that they are yet in a great measure irremediable by his skill; while the surgeon can turn with well-merited triumph to the success with which one great arterial branch after another has been removed from the catalogue of hopeless diseases. It is not, however, so long ago that many cases of external aneurism were thought as hopeless as those of internal are now regarded—a circumstance which is of itself an answer to those who urge the inutility of continued inquiries. By the progress of observation, the pathology and discovery of internal aneurisms are becoming every day more sure; the line of distinction between these and other tumours is becoming more broadly marked; and a hope may be justly entertained that when the symptoms and signs by more perfect