

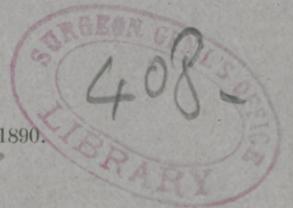
Meyer (W.)

REVIEW OF
NITZE'S TEXTBOOK ON
CYSTOSCOPY.

By WILLY MEYER, M.D.,
OF NEW YORK.

105 East 59th Street.

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CYSTOSCOPY.



TEXT-BOOK ON CYSTOSCOPY—ITS TECHNIQUE AND CLINICAL IMPORTANCE. By MAX NITZE, Berlin. Pages, 329. Wiesbaden: J. F. Bergmann. 1889.

A little more than two years have elapsed since cystoscopy, this new branch of surgical diagnostics, has been established in its modern shape, and a text-book on this subject has already been published, written by that author, who has the greatest experience and merits in this line. The book will be welcome to the beginner as well as to the more experienced one in this interesting and important method of examination. The former finds in it a thorough, fascinating introduction, the latter many valuable hints and facts which make him understand better what he has already seen himself; he further gets a great number of practical rules how he may best overcome, even in desperate cases, such obstacles, which seem to prevent the doctor from making a cystoscopic examination. We are instructed how we may succeed with perseverance and tact, in the gentlest manner for the patient "to view the interior of the bladder." Very satisfactory is the effect of the truthful reproduction in text and cuts of exactly what has been seen, without any ornamental addition or any exaggeration. Everybody who has practiced cystoscopy will admit this. Of course even Nitze is not yet able to give a correct pathological anatomical explanation of every picture he has seen. But he gives at least the most probable one. His text book does not at all claim to treat a perfectly developed branch of medical science. It only is the author's intention "to give a structure, the perfect completion of which can only be realized by the united work of numerous investigators." The main fact is, that cystoscopy to-day enables us after some experience—and this, says Nitze, is absolutely necessary—to obtain a clear view of the interior of the morbid bladder and even though it be a very irritable one. That such a satisfactory exploration is really possible is, as the reviewer

knows by personal experience, not yet generally admitted amongst surgeons.

Nitze divides his book into three parts.

Part I explains in 124 pages the history and technique of cystoscopic examination.

After having given a short history of the development of endoscopy and the changes in the relative size, length and position of bladder and urethra produced by the manipulations connected with cystoscopy, the author dwells at length on the importance of the two new principles in this new method of examination invented by him, viz.: the introduction of the light itself into the cavity to be examined and the optic apparatus which magnifies the spot coming into view. The two devices combined effected the immense progress which has been made. There is no doubt that also the original cystoscope which was presented by Nitze to the Imperial Society of Vienna Physicians in 1879 gave splendid pictures, as a small number of cases, reported by different authorities, prove. But in using the incandescent platinum wire which gave the light, too many expensive and unhandy accessory apparatuses were required. The original instrument therefore did not come into general use. Edison's lamp, of a very small caliber, so-called mignon lamp, determined a radical change. The cystoscope in its newest construction is simple, handy and cheap, not larger than an ordinary silver catheter, No. 22-23 French scale. The optic apparatus which enlarges the area of the bladder brought into the field of vision and at the same time magnifies it, consists of a special combination of lenses. This optical apparatus has been called a "telescope," but the term does not adequately describe it. Its properties and usefulness are dwelt upon at length in the text. (The peculiar combination of the different parts will probably make photography of the pictures possible. Nitze makes a few remarks in this respect at the conclusion of his book). The three different cystoscopes—No. 1 is mostly used and the most important one; No. 2 is for the fundus of the bladder, especially useful in cases of hypertrophy of the prostate gland; No. 3, which can still be improved, for the internal orifice of the urethra and the surrounding portions of the bladder, and the present accessory apparatus (battery and wire with handle) are then fully described and a number of important rules in regard to keeping and preserving the instruments given. The eighth (last) chapter of the first part of the book treats the "technique of cystoscopic examination." It would surpass the limits of this review if we would try to give a short report of what is given and worth knowing. For

such a purpose the book itself must be studied. Here it must be sufficient to state that in nearly every case we can fulfill the three main requirements for a successful cystoscopic examination, viz.:

1. We must not dim prism and lamp in introducing the instrument into the bladder.

2. The caliber of the urethra must be large enough to allow of the passing of the cystoscope (No. 23 French) and also the capacity of the bladder sufficient (five ounces).

3. We must be able to have a transparent fluid in the bladder.

The experienced doctor has means at his disposal (of original) to overcome any obstacles which may be in the way. There are 5 exact motions of the cystoscope in the bladder, demonstrated by cuts which will bring into sight every spot of the interior of the bladder with mathematical exactness. With the help of cocain-anæsthesia we can make cystoscopy painless, even in very irritable bladders or patients. Rarely a preliminary hypodermatic injection of morphia is required, still more rarely narcosis.

Part II of the book (100 pages) deals with the cystoscopic appearance of the healthy and of the morbid bladder. Whoever has already had the satisfaction of inspecting the interior of the healthy bladder will find that the pictures in Nitze's book admirably reproduce and confirm his own experience. The novice who has not yet had this satisfaction will by the inspection of these pictures and the perusal of the book learn many facts of which he had been previously ignorant. He will read of the coloring (pale, yellowish red, rarely pink) and surface of the mucous membrane of the bladder; of the fine ramifications of small blood vessels similar to those that we see on the retina with the ophthalmoscope; of the peculiar picture of the fold of mucous membrane around the internal orifice of the urethra; of the glistening bubble of air at the vertex, intentially injected into the bladder for easier localization. But the reader's greatest interest will certainly be aroused by Nitze's clear description of the endoscopic picture of the fundus of the bladder, the mouths of the ureters and their fold of mucous membrane. Many will certainly feel eager to observe once themselves how the urine, descending from the kidneys, enters the bladder with a rush at intervals of from 30 to 60 seconds—sometimes as long as five minutes—producing whirls in the water that had been injected into the bladder; how at the same time the mouth of the ureters first slowly contracts to the size of a very small groove and then again gradually enlarges to its former size, at this moment suddenly giving exit to the urine; how the mouth of the ureter remains in this middle

position for a short while until the recurrence of the movement determines a repetition of the phenomena;¹ how the displacement of the intra-abdominal organs during respiration reflects upon the vertex of the bladder (downward and upward rolling of the injected bubble of air); how the same spot of the wall of the bladder, especially on either side, shows rhythmic pulsation (transmission of the pulse of the external iliac artery). Among *pathological* processes the author treats first the cystoscopic picture of catarrh of the bladder. As in other organs catarrh of the bladder manifests itself by redness and œdematous swelling of the mucous membrane and in the production of a catarrhal secretion. The pictures show a great variety and are not distinctly differing from each other in accordance with the various degrees of catarrh. In a few rare cases a circumscribed portion of the inner surface of the bladder presented the symptoms of a very marked catarrh, the other part of the viscus being perfectly healthy. Nitze further states at length what he has seen in tuberculosis of the bladder and cases suspicious in that respect. One has not yet succeeded in establishing a characteristic picture for the tuberculous affection.² It is evident that we can plainly see stones and foreign bodies in the viscus,

¹I am of the opinion, according to my own observations, that this phenomenon takes place in exactly the opposite way. When the urine begins to enter the bladder the mouth of the ureters with its elevation of mucous membrane keeps its position or is sometimes pressed a little forward. Only at the end of each conveyance of urine into the bladder, the orifice is drawn inward and assumes with its nearest adjacent part the shape of a funnel. As soon as the last drop of urine has been passed into the bladder the mouth of the ureters returns to its former place. In regard to probable explanation, see my article "On Cystoscopy, etc.," *N. Y. Medical Journal*, 1888, p. 430.—W. M.

²Only a few days ago I had occasion of performing cystoscopy in a patient of Dr. Le G. N. Denslow, of St. Paul, whose symptoms excited suspicion of tuberculosis. I saw a beautifully clear and instructive picture. Immediately above the somewhat swollen mouth of the right ureter and its elevation of mucous membrane, there was an ulcerated spot of about the size of two silver dollars. Purplish-red, broad elevations (evidently the inflamed fibres of the detrusor muscle) crossed each other in different directions. Small particles of snowy shining mucus, adherent to their surface, floated in the fluid. The depressions between these elevations were, of a lighter hue, also covered with mucous flakes. In between them numerous very small and larger sessile growths of grayish coloring were plainly visible, a few about as large as a pin's head, undoubtedly miliary-tubercles. On one spot a small rhomboid-shaped dark-red spot could be seen. The entire other inner surface of the bladder was perfectly normal, of grayish-white color, rather anæmic, corresponding with the condition of the patient. As the microscopic examination showed an abundance of tubercle-bacilli in every specimen of urine prepared, the diagnosis "tuberculosis of the bladder" is the correct one beyond any doubt.—W. M.

make out their mobility, estimate their size after some experience and observe their shadow on the wall of the bladder. Sometimes the larger size of the bodies or their position in the groove behind the swollen prostate gland for instance, as also the morbid condition of the bladder produced by their presence, causes difficulty in regard to a correct diagnosis. By closely following a few practical rules we can overcome such difficulties in nearly every instance.

But cystoscopy celebrates its greatest triumph in establishing the diagnosis of tumor of the bladder. If the urine is clear, no preparatory treatment (washing the bladder) is required. The cystoscope is immediately introduced at a time when the bladder probably holds a sufficient quantity of urine for examination (about 5 ounces). Thus a hæmorrhage, which might arise in consequence of the washing, will best be avoided. If hæmaturia is just present at the time of consultation, the doctor should not yield to the patient's demands and try to get the bleeding under control by irrigation, but rather wait until it has stopped. This usually will occur soon. Immediate success in the first attempt at cystoscopy will be the probable reward. If an infectious catarrh of the bladder has already set up, a condition which is mostly found in these cases, grave obstacles will be sometimes encountered. Frequently they will be overcome by patience and careful handling, now and then they will prevent the examination. As this accompanying catarrh of the bladder, which so terribly torments and weakens the patients, is *in all cases* carried into the bladder by the doctor with the sound or catheter, Nitze postulates to absolutely avoid the introduction of an instrument into the bladder of patients, where a tumor of the bladder is suspected. The cystoscope must be the first instrument in future which is resorted to in these cases. It is selfunderstood that we will always apply strict antisepsis in preparing the patient and in performing the cystoscopic examination. At the conclusion of this interesting chapter a short report of twenty cases of tumor of the bladder will be found, being diagnosed by Nitze with his cystoscope. All their characteristics were verified by epicystotomy or post-mortem as previously diagnosed.¹

¹Three weeks ago I was called in by a colleague to see a man, æt. 53 years, who had constantly passed bloody urine since about six months, without ever consulting a doctor. He only suffered from frequent forcible micturition and now and then pain in the glans, otherwise he felt comfortably. Repeated careful chemical and microscopical examination only showed blood and mucous cells, never a particle of a new growth. Bimanual palpation was very difficult and also promised no result on account of the patient's corpulence and marked hypertrophy of the prostate. I there-

In the following chapter, "Hypertrophy of the Prostate," Nitze puts special stress upon the appearance of the fold of mucous membrane surrounding the internal orifice of the urethra, which can be perfectly viewed with the cystoscope. Nitze believes that he will be able, in course of time, to diagnosticate the species of hypertrophy in the picture by seeing the changes of this fold. In many cases it will be desirable to corroborate the result of the examination with the cystoscope No. 1, also with the cystoscope No. 3.

Part III of the book, closely resembling Nitze's former treatise (v. *Langenbeck's Archiv.*, Vol. 36, III), speaks of the importance of cystoscopy in regard to the diagnosis and treatment of urinary and bladder diseases. An objective comparison of the former methods of examination of the male bladder (as chemical and microscopical analysis of the urine, examination with sounds, combined rectal palpation, as proposed by v. Volkmann, digital exploration of the bladder after median section, epicystotomy, etc.) with cystoscopy shows that the latter is the most perfect one, that it is greatly superior to all of them, because it promises the most reliable result. It is at the same time the gentlest method in regard to the patient. It is safe to say that cystoscopy has the same importance for the diagnosis of bladder diseases as laryngoscopy has for those of the larynx. It should, therefore, not be applied as a "last resort," as one frequently hears said, but it should rather be the *very first*, before the bladder has been infected by intra-vesical useless manipulations and before obstacles have arisen to render orular-inspection impossible. Once more the medical colleagues, therefore, are earnestly requested to stop introducing a sound

fore immediately resorted to cystoscopy. As a hypodermic of morphia with local cocaine-anæsthesia did not quiet the irritable bladder, the patient was narcotized. Now we saw in brightest illumination a round, sessile growth with an uneven surface of about the size of a cherry on the left wall of the bladder, about one inch above the mouth of the left ureter. I very plainly saw that blood was oozing out of its surface. The other portion of the bladder appeared to be healthy; there were symptoms of a slight catarrh. The diagnosis of tumor thus having been made, epicystotomy was proposed to the patient. The operation was performed in the posture and with the help of the cross incision, as proposed by Trendelenburg. The bladder having been incised the growth was found on the spot localized before; it presented all the characteristics as formerly diagnosed with the cystoscope. The tumor was grasped with a long Muzeun's forceps, pulled forward and cut with the adjacent parts of the wall of the bladder with the knife by an ellipsoid incision. The base was burned with Paquelin's thermo-cautery. Drainage of the bladder with the T-tube in latero-abdominal position; the lower two-thirds of the wound in the bladder were closed by catgut sutures. Patient made an uninterrupted recovery. He is already out of bed.—W. M.

or catheter into the bladder in cases of obscure urinary trouble in future, but to let these patients primarily be examined with the cystoscope, before any other local examination has been tried. Only if there is ample reason for suspecting stone in the bladder, sounding should be resorted to at once.

The advance in the diagnosis of the various urinary and bladder diseases, made by the use of the cystoscope up to date is immense. The one very important fact deserves to be mentioned first: That we are able to decide with absolute certainty whether the bladder be healthy or morbid, and thus definitely localize the trouble. For if it be proved that the seat of the disease is *not* in the bladder, then it must be looked for somewhere else, especially in the upper urinary passages, most probably in the kidneys. Furthermore, we can learn to see out of which ureter purulent or bloody urine escapes, whether in a case of disease of one kidney the other continues to perform its functions.

The more thorough knowledge of the various forms of catarrh of the bladder will demand a modified treatment. The diagnosis of ulcerations of the wall of the bladder, especially those of a tuberculous nature, will force the knife into the surgeon's hands to perform suprapubic cystotomy, to scrape the ulcers under the guidance of the eyes, and burn their base, or to make a radical extirpation which includes the wall of the bladder, according to Schatz. Foreign bodies can not only be diagnosticated, but plainly localized, and therefore removed with absolute certainty by a proper method. If after litholapaxy any detritus remains in the bladder, the cystoscope will find and localize it, and therewith greatly facilitate its removal. The only one, but most important reproach to litholapaxy has thus lost its foundation. Litholapaxy, with the help of cystoscopy, will forever rank highly amongst the operations for stone. It is well known that now and then even a very experienced hand will fail to detect a stone with the sound. By using the cystoscope such cases will not occur any more. Diverticula are very easily demonstrated. If a catheter, with a curvature adapted to their locality, is introduced into their cavity, they may be washed out, and the catarrh of the bladder, created by them, improved. Their presence would require a very careful distension of the bladder for the suprapubic incision.

But before all, the treatment of tumors of the bladder has been benefited by cystoscopy. Their soft structure makes it impossible nearly in all cases, to diagnose them with the sound or bimanual palpation. The cystoscope enables us to view them in the brightest il-

lumination. To remove benign, pedunculated growths, Nitze proposes, not to incise the bladder, but to crush the growth, when localized, with a long forceps, introduced per urethram. The curvature of the forceps must correspond with the insertion of the growth¹; the operation may be performed in one sitting or more. The result will be easily controlled by repeating cystoscopy after some time. If the technique of epicystotomy continues to be improved, and if this operation is not looked upon any more as a dangerous one whatsoever. Nitze would prefer it in all cases to the procedure just described. Recently von Antal diagnosed a polypus of the bladder with the cystoscope and removed it with a long forceps by way of the urethra. He has published the case in his new treatise (*Pathology and Treatment of Urethra and Bladder*, Stuttgart, 1888, p. 401) without giving credit to Nitze, who first recommended this method. (A second case of this kind is published by E. H. Fenwick, of London, *Brit. Med. Jour.*, Sept. 22, 1888.—W. M.) Such cases will multiply "if the general practitioner begins to realize the eminent pathognomonic importance of a spontaneous hæmaturia."

WILLY MEYER.

¹A very good instrument which has recently been constructed by Dr. G. G. Hopkins, of Brooklyn, can, as it seems, be well used for this purpose. A new curette for the male bladder. *Brooklyn Medical Journal*, January, 1890.—W.M.

