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Dugas (L. A.)

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SOUTHERN MEDICAL AND SURGICAL JOURNAL. (EXTRA.)

A Case of Urinary Calculus, attended with peculiar circumstances and treated by Lithotrity. By L. A. DUGAS, M. D., Prof. of Surgery in the Medical College of Georgia, and Editor of the Southern Medical and Surgical Journal.

The following case is reported because of certain peculiar features presented during its progress. The patient, Mr. John L. B., of Hall county, Ga., is 30 years of age, was kindly directed to my care by Dr. Richard Banks, the distinguished surgeon of Gainesville, and arrived here on the 5th of February last. Having suffered from early childhood with phymosis and an almost complete closure of the orifice of the prepuce, (which he believes was congenital,) the difficulty of voiding his urine caused this to distend the prepuce into a considerable bag, to accumulate enormously in the bladder, to stagnate in the pelvis of the kidneys, and to induce very great impairment of the general health. The preputial orifice was so small as not to admit, without much difficulty, the introduction of a knitting needle; the urine was therefore never passed off in a jet, but the patient was subjected to all the inconvenience of a continual stillicidium; he had frequent and violent attacks of nephritic pains, attended with protracted chills, fevers, and the usual concomitants of retention of urine. Yet it was not until the 20th year of his age that he sought professional aid and was circumcised by Dr. Banks. From that time his health improved rapidly; but he continued subject to occasional paroxysms of severe nephritic pains, which now became confined to the left side. These pains would extend down along the course of the ureter and continue one or more days, leaving him in a debilitated state, from which he would, however, soon recover. He is not aware of ever having passed gravel or anything like calculous matter, although his urine would sometimes present a very copious sediment.

This state of things continued until the middle of April last, when, although in good health and not having had any nephritic pain for about three months, he felt a calculus drop into his bladder. Attending to his usual avocations, he stepped out to urinate, did so without any difficulty whatever, and when in the act of buttoning up his garment, distinctly felt something fall into the bladder. He immediately mentioned the fact to a friend, and added that "it must be a stone, for its fall produced a sensation like that of a buck-shot allowed to drop into a bag." A few hours afterwards, on again attempting to urinate, the stream was suddenly arrested by the engagement of the calculus in the urethra—the sensation being so distinct that he instinctively carried his hand to the perineum in order to force it out—but in vain; and the same difficulty has ever since attended his micturition. These details are given as establishing conclusively the facts that he did know the *precise moment* at which the stone came into the bladder, and that this occurred so late as about *three months after the last nephritic attack*. He has experienced no pain whatever about the

kidney since that. In May he was sounded by Dr. Banks, who readily detected the stone.

On the arrival of Mr. B. here, I examined him, detected the calculus, found it to be small and determined to crush it as soon as circumstances would permit. The patient was directed to use dilating bougies, to remain quiet, to drink freely of slippery elm tea and super carbonate of soda, and to take a hip bath every night. In a week he was found to be sufficiently prepared, and (on the 12th of February) the operation was performed with Heurteloup's "*brise pierre*," as modified by Charriere. The bladder being filled with tepid water, the calculus was readily seized and crushed three times, without pain. A few fragments were passed off with the water, and others during the night with the urine. On the following day, finding the patient very comfortable, without any symptoms of irritation, and very anxious to get home as soon as possible, I again introduced the instrument and crushed the remaining fragments, sufficiently to allow them all to be passed out during the night. He now expressed himself "entirely relieved, and feeling like a new man." The baths, etc., were continued and on the 16th February, I explored the bladder carefully, without being able to detect any vestige of the stone. The patient was therefore discharged.

The dimensions of the stone were accurately ascertained by the crushing instrument to be about one inch in length and half an inch in thickness. Professor Means having kindly subjected some of the fragments to analysis, informs me that they consisted of Oxalate of Lime. The stone was exceedingly hard, and tested to the uttermost the fine temper imparted to the metal by Charriere's unrivalled skill.

Reply to "REMARKS" contained in the April number of the Western Journal of Medicine and Surgery, over the signature of "B."

Having just returned from Europe, after an absence of five months, I find that the above Report, which appeared in this Journal last April, has been made the subject of criticism in the Western Journal of Medicine and Surgery (published at Louisville, Kentucky,) and that these Strictures elicited a reply from an esteemed friend, (in the July number of this Journal,) which has, in its turn, been followed by a rejoinder in the Western Journal, of August. A sense of duty to myself as well as to science, demands of me a sacrifice of feeling while I obtrude upon an enlightened profession the following pages.

With a view to render my comments upon the "Remarks" of my critic more intelligible, I will append them to each of his paragraphs in the order in which these appear :

"REMARKS.—This certainly presents 'certain peculiar features,' both in anatomy and Surgery, and we are utterly at a loss to understand some of them. The fault may be ours, but there can be no wrong in stating the difficulties.

"1st.—It is somewhat remarkable that a phymosis should have

created so great a resisting power in the prepuce as to dilate even the ureters. This strikes us as a very remarkable peculiarity. The wonder is increased considerably when we find that notwithstanding the *ureters* were thus dilated so as to permit the passage of a stone of novel dimensions, the *urethra*, which should have synchronised liberally in the dilatation of the ureters, was so little inclined towards anything of the kind, that it stopped the stone which had fallen through the ureter! The extravagant dilatation of the ureter is inexplicable; but, assuming the claim as a fact, the dilatoriness of the *urethra* is rather marvellous."

The reader will perceive that, according to this paragraph, I am charged with having alledged that the phymosis "created so great a resisting power in the prepuce as to dilate even the ureters," and that "notwithstanding the *ureters* were thus dilated so as to permit the passage of a stone of novel dimensions, the *urethra*, which should have synchronised liberally in the dilatation of the ureters, was so little inclined towards any thing of the kind, that it stopped the stone which had fallen through the ureter." Such is the meaning of the paragraph, bereft of the epithets, "remarkable," "wonder," "novel," "extravagant," "inexplicable," and "marvellous."

Now, if the reader will look over my Report, he will find no foundation whatever for such a charge. No where have I said or inferred that the resisting power of the prepuce was so great as to dilate the ureters and to permit the passage of the stone. It is distinctly stated in my first paragraph, that the patient was thirty years of age when I operated upon him, and that he was but twenty when circumcised by Dr. Banks; thus leaving him entirely free from any phymosis or difficulty in urinating for a period of ten years before I saw him. Having stated that the phymosis had been removed ten years before I saw the patient, and more than nine years before the entrance of the stone into the bladder, my Report cannot be so perverted as to make it appear that I ever expressed or even entertained the views to which "B." objects. I again beg the reader to refer to my report.

It is true that I found a calculus in the bladder, and that I reported the patient's narrative as "establishing conclusively" (in my opinion) "that he did know the precise moment at which the stone came into the bladder." The fact that the stone appears to have come down the ureter, cannot be accounted for by "B." otherwise than by supposing this duct to have been dilated by the resisting power of the prepuce, and he therefore endeavors to make it appear that such was my representation of the case. It does not seem to have once occurred to the critic that a calculus may be formed in the pelvis of the kidney, pass into the ureter, and be gradually propelled forward by the urine, thus dilating the ureter in its progress. Nor does he appear to have ever heard of a case in which a calculus after thus passing down the ureter, had been refused admittance into the *urethra*! He forgets

that whereas the ureters are comparatively passive in their resistance to dilating agents, the urethra is essentially different—and also that the column of urine emerging from the kidney would necessarily press forward a body situated in the ureter until it entered the bladder, if possible; but that the calculus might remain in this reservoir without being necessarily forced into the urethra.

Again: according to "B." the "urethra should have synchronised liberally in the dilatation of the ureters." This is a new doctrine, for the originality of which the critic is unquestionably entitled to credit. A case in which the urethra "would synchronise" with the ureters in a dilatation consequent upon the descent of a renal calculus would indeed be "remarkable," "extraordinary," and "marvellous." Whether or not the urethra should "synchronise liberally in the dilatation of the ureters" occasioned by phymosis, is not the question before us, since in this case as reported, no phymosis had existed for more than nine years before the period at which the calculus is alledged to have passed into the bladder.

"2d.—The statement of the patient that he "heard something drop," and therefore knew the exact moment of the entrance of the calculus into the bladder, seems to have made a profound impression upon Professor Dugas, for he unhesitatingly gave credence to the statement. The patient may be excused for thinking that a calculus could fall from the ureter into the bladder, but we have some difficulties in our faith. The ureters enter the *bas fond* of the bladder, very obliquely, and a stone would have to fall *up* in falling from the ureter into the bladder. And then when we remember the pathological truths of Mr. Aldridge, which seem to show that the oxalate of lime is not secreted in the kidneys, when we remember that there is no kind of evidence that the ureters in this case were dilated even in the slightest degree, and that the passage of a mulberry calculus through the ureter would have made a man feel a multitude of other things besides the falling of the calculus, we must remember that we have before us what may be called the difficulties of faith."

I have no right to complain that "B." has not as much faith in the statement of the patient as I have, who know him to be an honest and intelligent gentleman. If all the circumstances detailed in the second paragraph of my report are not deemed by "B." sufficient to establish "conclusively the facts that he did know the *precise moment* at which the stone came into the bladder," the fault is not mine. I will not stop to correct an error of quotation, nor to return thanks for "B.'s" sapient anatomical and philosophical suggestions. I am still, however, credulous enough to believe that a calculus may emerge from the ureter suddenly and with sufficient force to occasion just such a sensation as "that of a buck-shot allowed to drop into a bag." I do not know any form of expression by which my patient could have imparted a more accurate idea of his sensation, and it is therefore I gave his own language.

Will "B." "remember" that the patient was relieved of the py-mosis nine years before he experienced this sensation; that "from that time his health improved rapidly, but he continued subject to occasional paroxysms of severe nephritic pains, which now became confined to the left side;" and that this state of things continued until the middle of April last (1850), when, *although in good health*, he felt a calculus drop into the bladder?" If, as intimated by "B.," the calculus did not come from the kidney, why did the patient never experience any symptom of it in the bladder, until the day upon which he felt the sensation in question? Why were all the symptoms of calculus in the bladder so well marked *after* the sensation?

"B." experiences "what may be called the difficulties of faith," when he "remembers the pathological truths of Mr. Aldridge, which *seem* to show that the oxalate of lime is not secreted in the kidneys," when he "remembers that there is no kind of evidence that the ureters in this case were dilated even in the slightest degree" and, finally, when he remembers "that the passage of a mulberry calculus through the ureter would have made a man feel a multitude of other things besides the falling of the calculus." But "B." should also "remember" that whatever the "truths of Mr. Aldridge may *seem* to show," Prout, Bird and Brodie, to mention no others, recognize the existence of calculi of oxalate of lime in the kidneys. Brodie says that "a patient may void one of these calculi and never void another, or he may void a second after the lapse of many years. In one instance, however, in examining a body after death, I discovered as many as five or six *in one kidney*." (p. 225, from Chelius, v. 3, p. 226.) One fact of this kind is worth more than a thousand conjectures or theories. As to the "multitude of other things" that "B." thinks the patient ought to have felt "besides the falling of the calculus," I would only remark that all surgeons of experience know that the sufferings occasioned by the descent of stones from the kidneys or by their escape from the ureters into the bladder vary infinitely and that the passage of even rough ones is sometimes effected without any pain whatever.

"3d.—We feel some difficulty about the dimensions of the calculus. We have seen between two and three hundred specimens of calculi, and have heard from various other collections, and we have neither seen nor heard of any calculus, except this one in Georgia, that was just one inch in length, and a half inch in thickness. These dimensions are such a wide departure from that uniformity of proportion found in calculi, that we think there must be some mistake in Professor Dugas's measurements. There must be a want of accuracy. Did it not strike the Professor that the growth of his specimen was altogether too rapid for a case of oxalate of lime calculus? There seems to us a wonderful celerity in every branch of this case."

In reply to the "difficulty" which "B." feels "about the dimensions of the calculus," I will merely suggest that it is not very surprising that he has not seen calculi of all the dimensions they may assume. By a coincidence, which may appear to "B." somewhat singular, Dr. H. F. Campbell, of this city, reported in July last, a case of Lithotomy in which the dimensions of the calculus, (which was of oxalate of lime), approximate very closely to those indicated in my case. "On measurment, it was ascertained to be of the following dimensions: longest diameter, one inch and three-tenths; shortest diameter, seven-tenths of an inch." (see South. Medical & Surgical Journal, July, 1851.) Prof. Gross, of Louisville, the weight of whose testimony will not be denied by "B.," in his recent and valuable work upon the Diseases of the Urinary Organs, thus expresses himself:

"Most urinary calculi originate in the kidneys, from which they descend into the bladder." (p. 341.) In relation to their form, he says: "Vesical calculi are commonly of an oval form, but occasionally they are round, spherical, or even cylindrical. Other varieties of form are sometimes seen, as the conical, pyriform, cubic, triangular, pyramidal, gourd-like, polygonal, and the tetrahedral. Sometimes the concretion is thin and flat, like a coin, lenticular, semilunar, or in the shape of a mushroom, a kidney, a mulberry, a bean or a heart. Again, it may be large and bulbous at the extremities, and narrow at the middle, like a dumb-bell. * * * *In fact, there is no end to the grotesque appearance of these foreign bodies.*" (p. 353.) And yet, "B." objects to my case because "the dimensions are such a wide departure from the *uniformity* of proportion found in calculi."! I leave it with the reader to determine whether it is more probable that there was a "mistake" in my "measurements" than that "B." has not seen stones of all the above forms and dimensions.

With regard to the time occupied in the growth of my "specimen," I have not expressed any opinion, nor do I know the source from whence "B." has derived his belief that it was "altogether too rapid for a case of oxalate of lime calculus." "There seems to us a wonderful celerity in every branch of this case" of fault-finding.

"4th.—The calculus in this case was 'oxalate of lime,' and the stone was crushed with Heurteloup's '*brise pierre*,' at two sittings, on two consecutive days, and the fragments were allowed to be passed off during the night. This is certainly the most remarkable achievement yet effected by Heurteloup's instrument. It is enough to excite the envy of Civiale, and put an end to the lateral operation. If a calculus of oxalate of lime, one inch long, and a half inch thick, can be utterly crushed in two sittings, in two successive days, so that no vestige of it is left, what apology can there be for cutting instruments for lithotomy? We have seen various efforts with Heurteloup's instrument, and have been sometimes surprised with the result,

but this success in breaking down, in two sittings, a stone of oxalate of lime, of the size of the one recorded by Professor Dugas, certainly takes the lead of all achievements we know of in lithotripsy. We have seen vesical stones of oxalate of lime removed by the lateral operation after lithotripsy had failed, and in which the most persistent efforts with the drill for many sittings had failed to make any more impression than if it had been used on a piece of Syenite. But if the improved apparatus of Heurteloup can break up at two sittings, a mass of oxalate of lime, and remove it entirely in two days, lithotripsy is making rapid strides, and M. Roux is an accredited prophet, when he says: 'lithotripsy has assumed her function, and no surgeon hereafter will attain sufficient experience to reach the highest degree of adroitness in lithotomy.'

"We suppose these new claims of lithotripsy will come before the American Medical Association, and if they receive the endorsement of that body, we may expect to see renewed evidences of the envy felt by European surgeons for the rising reputation of American Surgery, and we shall hear them again denouncing American surgeons for a proneness to exaggeration. B."

The two last paragraphs of "B.'s" "Remarks" fully illustrate the spirit in which they were indited. Their unworthy imputations and insinuations cannot provoke me to any special notice of them. Regarding personalities in scientific controversies as decidedly in bad taste, I have endeavored to avoid noticing any thing that might savour of unfairness on the part of my critic.

When I published my case, I must confess that I did not anticipate for it so much notoriety. I thought that it presented "certain peculiar features" not unworthy of record, and endeavored with as much brevity as possible to draw up a faithful report. The features I deemed most interesting, are: 1st, the existence during twenty years of a phymosis attended with an almost complete closure of the preputial orifice, and which seriously implicated the general health of the patient before he applied for surgical relief; 2d, the recurrence of occasional attacks of nephritic pains during ten years after circumcision, which pains finally became confined to the left side; 3d, the accurate indication by the patient of the precise moment at which the stone came into the bladder; 4th, the passage of the stone into the bladder just after micturition; and lastly, the circumstance that the stone entered the bladder *three months* after the last nephritic attack. But it had not occurred to me that these peculiarities presented any thing incredible, nor even extraordinary. I merely regarded them as furnishing an interesting illustration of facts, which, although already within the domain of science, are not of very frequent occurrence. I have not had leisure to look over authorities on the subject, but I do not recollect an instance in which the knowledge of the precise moment at which the stone came into the bladder, is so

well established. Such may, however, be on record, and yet the addition of this case can do us no harm.

That the stone came into the bladder just *after micturition* is not surprising; but it would be interesting to know whether such is *usually* or only *rarely* the case. It may therefore be well to direct attention to this point more forcibly than has heretofore been done. The fact that the distention of the bladder occasions a compression of the portion of the ureters engaged between its laminæ, whereas this compression ceases with the subsidence of distension, would lead us *à priori* to infer that calculi rarely, if ever, enter the bladder when filled with urine, and that they would be most apt to do so just after micturition, when the flow of urine through the uncompressed orifice of the ureter would exert most favorably its propelling influence upon the stone. It is doubtless owing to this compression of the vesical extremity of the ureters that calculi are so often arrested at this point and that they sometimes remain fixed here. In the case before us, it would seem probable that the calculus had remained at this point about three months,—the period which elapsed from the last nephritic attack to the time at which the stone is indicated to have passed into the bladder.

With regard to the operation by which the patient was relieved, I did not, nor do I now see in it any thing miraculous, or in anywise calculated to provoke the envy of our transatlantic brethren. It is certainly flattering, however, to find that any one, even in our own country, considers it a "remarkable achievement."

L. A. DUGAS.

Augusta, Ga., 20th Oct., 1851.

P. S. The subjoined letter from Dr. Banks, has just been received, and may perhaps satisfy "B." that the patient has been entirely relieved of his calculus.

L. A. D.

"GAINESVILLE, Oct. 23, 1851.

"*Dr. Dugas*: Dear Sir,—I have not been able to see Mr. Bell since the receipt of your letter, as he lives about eighteen miles from town. I saw him shortly after he returned from Augusta, and he then complained of a slight soreness in the neck of the bladder. I have seen him several times since then, and he has uniformly expressed himself as being entirely relieved from the disease. His general health and appearance is much improved. I saw his brother on yesterday, and he confirms the above statement as to the entire restoration of John L. Bell's health.

"Truly yours,

RICHARD BANKS, M. D."