Clinical Lectures

DELIVERED AT

CHARING CROSS HOSPITAL.

BY

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LECTURE II.—ON HÆMATURIA.

Difficulty of Diagnosis of Hæmaturia. Immediate Approximative Diagnosis. Cases. Relation of Cutaneous Dropsy to the Diagnosis of Hæmaturia. Prognostic Value of the Disappearance of the Blood. Diagnosis of Pure Hæmaturia from Albuminuria plus Hæmaturia. Special Prolivity of Kidneys to Hæmorrhage. Rationale of the Persistence of Hæmaturia. Case of Blood-Cast of Ureter. Treatment.

GENTLEMEN,—There are two words which are constantly used in your hearing, and with the meaning of which you are doubtless familiar; they both mean the same, and yet not the same; they are *idem et alter*: they both mean the admixture of the elements of the blood and the urine; but the one means blood in the urine, the other urine in the blood,—*hæmaturia*, blood in the urine; *uræmia*, the elements of the urine in the blood. But it is necessary that you should understand something more than the *meaning* of the words, or even the absolute nature of the conditions they indicate; for this knowledge to bear any fruit, or be of any service to you, you must understand their indications, what they imply—their pathological significance.

These two conditions, *hæmaturia* and *uræmia*, are often coexistent; the kidney that is the seat of hæmorrhage being often a kidney incapable of eliminating the usual quantity of urine-solids; and, on the other hand, the disorganisation involving loss of secreting power, often involving also such a derangement of the circulation of the organ as gives rise to hæmorrhage. But each often exists alone; we constantly get blood in the urine without there being the slightest evidence of urea in the blood, the functioning power of the kidney not being in any way lost; and, on the other hand, we constantly get *uræmia* from the imperfect elimination of urine-solids by the kidney, without the slightest trace of blood in the urine. A bleeding kidney may be one doing its work well; and a kidney whose secreting power is utterly gone may be a kidney that has never bled.

To some points in connexion with one of these conditions—*hæmaturia*—I would to-day direct your attention, my remarks being suggested by two cases now in the house, which are instructive in many respects, and whose teaching I would wish to interpret to you.

But first let me tell you that, though the meaning of the word *hæmaturia* is peculiarly definite, and its existence most easily recognisable, its pathological significance is peculiarly uncertain, and the diagnosis based on it wide and doubtful. Any condition in any part of the urinary (or genital) passages giving rise to the escape of blood may cause hæ-

maturia; and the presence of blood in the urine, taken *per se*, tells no more than that such a condition somewhere exists. A patient may have a calculus lodged in the pelvis of his kidney, and hæmaturia may be a principal symptom; a man suffers acute congestion of his kidneys from exposure to cold, and straightway hæmaturia appears; a child has scarlatina, and a fortnight afterwards passes urine black with blood; a man falls on his back across a pole, and, the next time he passes urine, it is seen to contain blood; a woman is menstruating, and she has temporary hæmaturia; a man has been catheterised, and blood is passed in his urine. Stone in the bladder, simple ulceration of the mucous membrane of the bladder, fungus hæmatodes of the bladder, malignant disease of the kidneys, are all frequent causes of hæmaturia. There is a peculiar and common idiopathic hæmaturia in children, the blood evidently coming from the bladder; and there is a form of bleeding from the mucous membrane of the bladder, without any apparent structural change in it, not at all uncommon in old men. Hæmaturia is sometimes the principal form of bleeding in cases of diathetic hæmorrhage. In all these ways, and I dare say in many more, hæmaturia may occur; and urine slightly smoky, or black with blood, may be shown you; and you simply know that it is bloody urine—you know just that, and nothing more. A naked-eye inspection of the *pôt de chambre* will not take you a step beyond this simple fact.

When I say *not a step*, I am saying perhaps too much; in one or two cases it will, I think, take you just a *step*. I think, for instance, that hæmorrhage from the ultimate structure of the kidneys never has a redness such as we see in some other urinary hæmorrhages, as from vesical calculus, for instance; and I think, too, that the temporary hæmaturia of menstruation has a distinctive appearance; it looks simply like urine, *plus* a little fresh blood, and may be simulated exactly by mixing a few drops of blood with urine out of the body; it never has the *smokiness* of many other hæmaturias. This slight negative information a mere naked-eye inspection *may* furnish; but, beyond this, I think my observation holds good.

How, then, are we to determine whence the blood comes? I think there are few cases indeed that will leave this at all doubtful, after a thorough sifting of the symptoms, local and general. But short of this, without a lengthened examination of the case, I think we may at once determine, within certain limits, what is the seat of the hæmorrhage. We may say at once that the blood does or does not come from the ultimate structure of the kidneys; we may say that it does or does not come from the urethra; and we may say that it comes from some part of the urinary tract of mucous membrane below the one and above the other; and thus—

If we find blood-casts of the uriniferous tubes, we know that the blood is Malpighian, the hæmorrhage ultimate renal. If a thorough examination of the urine fail to find any casts, the blood, *if at all abundant*,* is *probably* not from the ultimate structure of the kidneys.

* I say "if at all abundant," because if the blood is very scanty there may be no tube-casts, and yet it may come from the Malpighian capillaries: the reason why casts are not formed being, that the blood is so small in quantity, and so diluted with the water of the urine that it cannot form a firm coagulum.

If the blood is passed without any urine, or without the act of micturition, it is urethral. If, too, it is confined to the first jet of the stream, it is urethral. If, again, it is confined to the last drop or two, the last jet by the ejaculator urinæ, it is probably urethral, and situated in the bulb.

If the blood is never passed except by an act of micturition, and intermixed with urine, and there is a clear absence of casts, then it comes from above the urethra, and below the ultimate kidney-structure; but "further this deponent sayeth not". It may be from the pelvis of the kidney; it may be from the ureter; it may be from the bladder.

You can, then, in this simple way, by a look with the microscope, and one or two plain questions, without any reference to the general symptoms, reduce yourself to this triple alternative, if I may use the expression: you can tell if it comes from the urethra, from the recesses of the kidney, or from some uncertain point between the two.

The cases of hæmaturia now under our observation in the hospital are two—one a little boy in the Bow Ward (bed No. 10), of the name of James Corke; and the other a woman in the Golding Ward (bed No. 8), a Mrs. Neale, aged 57. I will first read the cases, and then offer my commentary on them.

CASE I. James Corke, aged 5, a thin, pallid child, has always been delicate, but never unhealthy. He was quite well up to six months ago, when he was seized with what his mother calls gastric fever, which appears to have been a feverish attack of an indefinite kind; and in a week or two jaundice developed itself. There were no symptoms of gall-stone; and nothing could be detected, anatomically or otherwise, wrong with the liver. The jaundice persisted with the utmost obstinacy, with the usual accompaniments of white stools and bilious urine, for three weeks; and nothing did it any good but strong purging. Under this, it was several times partially relieved, and at length entirely yielded, the water and motions regaining their natural appearance and colour. A day or two, afterwards, however, he complained of shivering (the weather being at that time particularly cold, with snow and hail), loss of appetite, headache, and pains in his limbs, making him cry out if touched. His mother put him into a warm bath; and the next day she noticed that his face, eyelids, legs and feet, and right arm and hand, were swollen. This swelling continued to increase for two or three days, then lessened, and in a week was gone. In the meantime, the urine became dark, nearly black; and this, when examined, was seen to be due to blood. The quantity of blood lost must have been great, the urine being sometimes quite black, and the child blanched as from hæmorrhage. All sorts of remedies were tried, with no effect; and, when he had been bleeding at his kidneys in this way for six weeks, he was admitted into the hospital. Up to the time of his admission, the urine was as bloody as ever.

When admitted, the child was quite anæmic, very languid and weak, with no appetite; but there was no trace of dropsy about him, and nothing acute in his condition. The quantity of urine passed in twenty-four hours was seven ounces.

The child was placed under my care on the 17th (the day after his admission); and, since he left on the 22nd, he was only under observation in the hospital four or five days. During this time he sensibly improved. The urine increased in quantity, being on the 18th twelve ounces, and on the 19th sixteen ounces, and of a specific gravity of 1021. The treatment prescribed was, confinement to bed; lying between the blankets; ten minims of tincture of sesqui-

chloride of iron, fifteen minims of dilute nitrohydrochloric acid, three times a day; sinapisms to the loins; and a mild but nutritious diet of eggs, milk, and farinaceous material.

There were two things at first doubtful in this case; one was the *seat* of the hæmorrhage, the other its *cause*. From the fact of the child having hurt himself in the perineum, riding across a chair, the day before the blood appeared in the urine, the mother was disposed to believe that the bleeding came from the urinary passages. There was, however, no pain in that region; nor could any be elicited by the deepest pressure; and there was no frequent micturition, or bladder-symptom of any kind. Tube-casts, however, could not at first be detected; and the blood in the urine was on some occasions redder than I have ever seen it, if from the ultimate kidney-structure. The consideration, however, of the general dropsy, which was ascertained to have existed when the case was fully inquired into, set the question of the situation and nature of the hæmorrhage at rest; and, for two or three days before the child left the hospital, the discovery of blood-casts proved beyond dispute that the hæmorrhage was Malpighian.

But, this being so, what was its cause? Was the embarrassment of the renal circulation, giving rise to the escape of blood from the Malpighian capillaries, due to the irritation produced in the kidneys by the bile which they had been labouring so long to eliminate; or was it due to renal congestion produced in the ordinary way by the retention of the cutaneous excreta in the blood from exposure to cold? The former might be suggested by theoretical considerations, and the time at which the symptoms appeared—after so long an attack of jaundice; but I believe the latter was the true cause, and think the cutaneous dropsy confirmatory of that opinion.

After remaining a week in the hospital, the child left from being home-sick. The improvement commenced in the hospital has continued ever since, and the child may now be said to be convalescent. He has gained flesh, strength, and spirits; and has an insatiable appetite. But, though there are no blood-casts, the faintest trace of smokiness may still be detected in the urine, and isolated blood-cells are still seen in some numbers under the microscope.

There are one or two questions suggested by this case—indeed, broached in the notes I have just read you, on which I would say a few words before relating the next. The first is, the possible production of renal dropsy, or hæmaturia, by jaundice.

We have every reason for believing—in fact, we have as much clinical evidence as possible—that the escape of albumen or blood from the kidneys depends upon capillary obstruction and engorgement, from the presence of some peccant material, it may be gouty, it may be alcoholic, it may be cutaneous, it may be urinous, it may be scarlatinal, which they are endeavouring to eliminate. In acute dropsy after chill, for instance, the blood-contamination depends upon the suppressed action of the skin; and the capillaries of the kidney refuse to connive at the free transit of a blood so contaminate, because the kidneys are the vicarious eliminators of the cutaneous excreta. We have, then, in this case, the normal channel of an excretion stopped, that excretion thrown upon the blood, and the kidneys doing their best to free the blood of it. In jaundice, we have precisely analogous conditions, the only difference being, that while, in the one case, the gland whose excretion is thrown upon the kidneys is the skin, in the other it is the liver. But, while the pathological conditions are analogous, the patholo-

gical results are entirely different; for, while the capillaries of the kidneys refuse to grant an unchallenged and free transit to blood charged with cutaneous excreta, and produce, as a result, Malpighian engorgement, serous transudation, or even the escape of blood, they do not ordinarily offer a similar impediment to blood charged with bile. We know, as a clinical fact, that jaundice may exist for years, and the kidneys be for years working off bile, without the production of albuminuria.

The other point is: What is the relation of cutaneous dropsy to the diagnosis of hæmaturia? In a case of doubtful hæmaturia, what light would be thrown on it by finding that sudden and general cutaneous oedema had been an antecedent symptom? It most positively asserts (barring the chance of coincidence) that the hæmorrhage was ultimate renal. Nay more; it would show that the particular cause of the kidney-mischief was suppressed action of the skin. I believe that sudden and general oedema occurs in no other class of cases of albuminuria or hæmaturia; and this I believe from the very *rationale* of acute cutaneous dropsy. It implies that the blood in the vessels of the skin is loaded with something that the skin ought to, and can, eliminate. Of course it is possible, as I have just said, that a coincidence may occur; and that, after the symptoms of acute renal dropsy, some other cause of hæmorrhage may supervene in some part of the urinary passages; but probabilities are always against coincidences, and we shall in any case be justified in giving to such an antecedent symptom its full diagnostic value.

[To be continued.]

Illustrations

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HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

WEST SUFFOLK GENERAL HOSPITAL.

CASE OF ANEURISM OF AORTA.

By JOHN W. GOODWIN, M.D.Cantab., Physician to the Hospital.

ON Nov. 22nd, 1861, I was requested to go to the railway station, as there was a passenger taken out of a first-class carriage, reported to be in a dying state. On my arrival, I found a large well-made man lying on some chairs in the waiting-room, with a livid countenance, and making most violent efforts to breathe. His chest, however, continued almost motionless; the abdominal muscles moved violently, and the larynx jerked up and down with a stridulous noise. His eyes were open, and the pupils contracted to a pin's point; but he seemed quite unconscious, and the perspiration stood on his face. His pulse was almost imperceptible; the hands and feet cold. His heart beat feebly; but scarcely any air could be heard entering the lungs. There was evidently great spasm; and after I had been with him five or ten minutes, he began to breathe more quietly; his countenance became less livid, and his pupils began to dilate; his pulse became much better, and his extremities began to get warm. I then made him swallow, though with great difficulty, some ammonia and chloric ether; and, in about an hour from my arrival, he was recovered sufficiently for me to remove him to the hospital. I elicited

from him that he was a gentleman's butler, and that he had got into the train about four miles from Bury; but that he recollected nothing more until he found me with him in the waiting room. He had been under the care of Mr. Image of this town ever since the commencement of the present year, and had suffered apparently from bronchitis, accompanied with a great deal of laryngeal spasm. This had yielded to treatment partially; but his voice was much altered, and he was constantly having these severe fits of spasmodic breathing. He had derived much benefit from a stay at Lowestoft; but that on his return his attacks again commenced. Mr. Image had given him the trial of a full mercurial treatment, thinking that there might be some syphilitic element; but with no benefit. His throat had been constantly blistered, and on admission he had an open blister on it. Mr. Image had recommended him to go to the Brompton Consumption Hospital, and, in fact, he was on his way there when this attack occurred.

There was a doubtful phthisical history; and he did not, to my eye, present the features of a phthisical patient. I ordered him some chloric ether and tincture of conium, in a wine-glass of decoction of cetraria, three times daily; a small quantity of brandy and meat diet. The day after admission, he incautiously put his hands into a basin of cold water, and the spasmodic breathing came on slightly, but passed off in a few minutes. Two days after this, he was attacked very early in the morning, and the house-surgeon thought him dead when he got to him; he rallied, however, and about 10.30 A.M., just the time of my morning visit, he was again seized with violent spasmodic breathing. At one time, for about half a minute, his breathing ceased, and his heart sounds could not be heard, and to all appearance, he was perfectly dead. In about half a minute, he gave a loud inspiration; and, upon being moved on to his side and then placed upon his back, he gradually rallied. His breathing became very rattling and less spasmodic; but the accumulation of mucus was so great as to lead one to imagine he must be suffocated, and he was long unconscious. As soon as he could swallow, I gave him a scruple of ipecacuanha, with directions to have it repeated, until vomiting was produced. He continued until late in the evening much in the same state; that is, breathing loudly, and expectorating rusty-coloured thick mucus. He took brandy and water occasionally, and at last managed to get some uneasy sleep.

In the morning, I found him looking cheerful, and breathing quietly; his countenance was pale, and he was, of course, in a very weak state. He took the anti-spasmodic expectorant mixture three times daily, and meat diet, with brandy and water. He continued to expectorate for four or five days tenacious, rusty coloured sputa, which presented the characters of bronchial and faucial epithelium, with blood-globules in numbers, and a large quantity of minute granular matter. I was able to make a thorough examination of him in a few days, and this was the result.

Percussion yielded a clear sound over both lungs posteriorly, and there was normal resonance over both anteriorly also, except for a small space at the sternal end of the left clavicle. From the sternal notch for about two inches along the left clavicle, and two inches below it, the percussion-sound was impaired. Air entered the right lung freely, and the respiratory sound was normal. There was, however, much less air entering the left lung; and over the space above alluded to the respiratory sound was loud and tracheal in character, but there was no increased vocal resonance; but the voice sounded just as if the ear were placed over the trachea. The heart-sounds were normal; and no murmur or impulse could be detected in any portion of the chest. The pulses were alike in the two wrists, and the number was about 74.

He complained of a tickling just above the sternal