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A COURSE OF LECTURES ON CLINICAL MEDICINE.

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LECTURE II.

Case of uric acid diathesis, continued. Retrospect of symptoms and treatment; sudden change in the component parts of the urine; triple phosphate, with globular aggregations of mucous character of the evening and morning urine, urina cibi, urina sanguinis.—Case of diarrhœa, succeeded by a remarkable diuresis.—Case of hæmoptysis: record of the case; treatment and ratio medendi; predisposing causes and pathological conditions of hæmoptysis; tubercular disorganization; heart-disease; pulmonary congestion; reasons for referring the case to the latter cause, &c., &c.

At our last meeting, gentlemen, I had selected the case of D. S., in St. Margaret's ward, as a good illustration of the advantages afforded by the microscope, to determine by some special characters of the urine certain pathological conditions of the body generally—conditions which without this aid as a ready interpreter of the chemical constitution of this fluid, it would be difficult to arrive at, and oftentimes impossible satisfactorily to distinguish. On that occasion you saw present in the urine that variety of uric acid, the rhombic or lozenge-shaped crystal, which is oftentimes attended with peculiar irritation of the kidneys, ureters, and even bladder. I gave my reasons then for stating that this was one of those cases of mal-assimilation in which the uric-acid predisposition existed, and was of that class which, if not favourable to the formation of calculous deposits, was palpably developing those aggregations of minute crystals which are a direct source of irritation and distress.

Since that period this case has presented some marked features of particular interest, tending especially to illustrate the changes the urine passes through in these cases of disordered assimilative organs. These cases exemplify the necessity of conducting the treatment on well-defined general principles, and the advantage of adhering steadily to them, notwithstanding the appearance of anomalous symptoms, and opposed at first aspect to the original diagnosis of the disease. You recollect that on the 10th October she was purged with five grains of the chloride of mercury: the evacuations were dark and offensive; there was severe lumbar pain, which had only been relieved slightly by the purging and warm bath; the stomach was also irritable, and there was inclination to retch. She was then

ordered mercurials, with ipecacuanha and conium; the two former as alteratives, the latter if possible to allay the pain and irritation. Effervescing draughts, with carbonate of potash also, to quiet the stomach, and neutralize the excess of uric acid. Animal food withdrawn; fish diet. So effectually did this control the uric-acid tendency, that in the course of thirty hours the urine had become more plentiful; no scalding on micturition; slightly acid; specific gravity 1.010; and the uric acid crystals had been replaced by the beautiful prisms of the triple phosphate. The previous mercurial treatment, together with the carbonate of potash, had doubtless controlled the tendency to the formation and deposit of uric acid, and a fish diet may, in some degree, have favoured the presence of the phosphate. This totally-opposite condition of the urine, occurring in so short a space of time after we had witnessed the presence of the uric acid crystals, might seem to you to contradict the original diagnosis; but in reality it confirms it, for it is in these cases of imperfect assimilative function that this remarkable tendency to extremes in the character of the urine exists. Accompanying these crystals of the triple phosphate, you saw numerous mucus-globules and epithelial scales; but the mucus-globules, instead of being free and separate from each other, were collected into clustered masses, in appearance arranged like grapes in a bunch. As they rolled pass the field you had an opportunity of determining that these were really aggregations of globules, and not plates or lamellæ. The prisms of the triple phosphate were abundantly dispersed among these globular aggregations; the number of detached individual globules was very small. The patient had a hot bath every night, and during immersion, and while the skin acted freely, she stated that she was free from pain. By a repetition of baths nightly the skin has been excited to free sudoresis, and during the night there has been free and profuse perspiration. These secretions from the skin have the peculiar acescent odour usual in rheumatism.

On October 15th, as the bowels acted well, the mercurials were withdrawn, and Pulv. Ipecac. Co., gr. v.; Potassæ Nitr., gr. v.; given every four hours. The object of this change was to maintain a constant tendency to sudoresis, for as the skin had exhibited a tendency to throw off abundance of lactic acid, it was deemed desirable to stimulate by diaphoretics this excretory; at the same time attention to the kidneys was not neglected, the nitre assisting to maintain the balance of this function. The urine was now carefully examined twice daily, to ascertain what differences existed between the evening and morning urine, it

being necessary to determine whether the *urina cibi* differed (and in what,) from the *urina sanguinis*.

The following were the characters of the urine passed on the evening of the 16th October, and morning of the 17th:—

Evening urine. Slightly acid; specific gravity 1.020; a cloudy flocculent deposit occupying about one sixth of the lower part of the glass. This deposit consisted of the clustered aggregations of mucus-globules above described, but there was no trace of crystalline matter.

Morning urine. Orange colour; acid reaction; specific gravity 1.022; no crystals could be detected, but the same flocculent deposit of *botryoidal* masses of mucus.

That of the 17th and 18th presented similar microscopic characters, but the specific gravity of the evening was 1.028; that of the morning 1.008. The lumbar pain on this day was much mitigated, the bowels acting regularly. Tongue clean, and the skin occasionally (especially at night,) acting freely.

Morning urine of the 19th:—Specific gravity 1.004; faintly acid; of pale straw colour; scarcely perceptible mucous cloud. Evening of same day:—Specific gravity 1.020; orange yellow; acid re-action, with some flocculent deposit, but no crystals. On this day the bowels had again become torpid; skin not acting so freely; complained of a stabbing pain in the region of the left kidney. Hydr. Chloridi, gr. v., statim. Haust. purgans. The powders to be continued every six hours.

The bowels were freely moved, evacuations dark-coloured and offensive.

On the 21st felt much better; bowels still inclined to be torpid. To repeat the saline purgative occasionally.

October 21st. Morning urine. Acid re-action; straw-coloured; specific gravity 1.012; *botryoidal* masses or clusters of mucus-globules totally disappeared; in the place of them numerous epithelial scales are present—debris of scales; no crystalline deposit. Evening. Specific gravity 1.022; dark orange colour; acid re-action; cloudy from presence of amorphous urate of ammonia, (pinkish variety;) on dissolving this by heat, many detached mucus-globules with epithelial scales become evident. It will be seen by these characters of the urine, that those portions of it derived after the principal meal of the day—viz., that voided between two o'clock, p.m., and six or seven in the evening, exhibited the characters of an imperfectly performed digestion, while that formed during sleep, and resulting more particularly from the elements of the blood and the tissues, assumed a more healthy character. The presence during so many days of these aggregated globules of mucus, and their disappearance corresponding with a mitigation of the lumbar distress, afford unquestionable evidence that they were the result of irritation: their being now replaced by epithelial scales and membranous debris, may be accepted as indications that the cause of that irritation is subsiding. The re-appearance of the urate of ammonia in such excess, as to render the urine, which was not deficient in quantity, quite cloudy and opaque, and bearing in mind that this was the evening urine, (the *urina cibi*), no doubt can be entertained that the assimilative organs have been from the first the cause of all these symptoms, and that they are not yet performing their functions efficiently.

Much caution will be necessary to regulate the

patient's diet and regimen, for in such cases the slightest error or departure from rules of prudence and regularity recall all the symptoms, with their accompanying distress.

I hope this as well as other cases to which I have previously directed your attention, will prove the advantage and importance of studying the urine both chemically and microscopically. The use of the latter becomes valuable as economising time, as in many cases a momentary glance at a drop of urine will, in the case of crystalline deposits, reveal for the most part, qualitatively, the chemical constitution of that portion of urine. A minute and oftentimes tedious chemical investigation is saved, while we quickly and with certainty detect the presence of the ordinary components of the urine when they are in excess, or take the crystalline form, and as readily determine the presence of any matters that are foreign to its composition. It is my intention as opportunities offer, to make you familiar with all the forms of urinary deposits, and at each of our meetings, samples of urine containing material for observation, will be placed on the table for your investigation.

While on the subject of the urine, and the modification of its quantity and constitution, I wish to call your attention to the case of a man in Burdett ward, who had suffered for some weeks previous to admission into the Hospital, from severe and distressing diarrhoea, in whom, after the cessation of the above discharge, copious and profuse diuresis succeeded.

G. S., aged 68, was admitted Oct. 1st. For twelve or fourteen days past has suffered from constant griping pain, tormina and tenesmus, with passage of blood, and copious watery evacuations; the purging was most distressing, twenty to thirty times daily, sometimes every quarter of an hour. On admission there was considerable debility; abdomen distended; tongue white and furred; pulse 66, sluggish and feeble. He was ordered hot baths, and Hydr. cum Creta, gr. v.; Pulv. Ipecac. Co., gr. v.; ter die. Mist. Cretæ Comp. cum Opio, oz. j., post singulas dejectiones. Milk and arrow-root diet. During the three following days the diarrhoea gradually ceased. On October 5th, the bowels acted only twice in the twenty-four hours. On the 6th and 7th the alvine discharges were again fluid, but not to amount to any distress. On the 9th the diarrhoea had entirely ceased, but on this day he passed eight pints of urine, slightly acid, perfectly clear, of a straw colour, and containing nothing unusual in its composition. The specific gravities of four observations were 1.010 as a mean. During the following seven days this diuresis continued, passing from six to eight pints daily. He has, notwithstanding, progressively recovered strength, and is now convalescent, but still passing more than the average quantity of urine in the twenty-four hours.

I have called your attention to this case in consequence of a question put to me in the ward,—whether this might not be a case of diabetes, and I mention the case to show you why it is not, for there are none of the pathognomic symptoms of that disease present. The specific gravity of the urine is not that of diabetic urine, which is, except in diabetes insipidus, always high, but leaving out the composition of the urine, the ordinary symptoms of diabetes were not present. There is not the insatiable

thirst, the ravenous appetite, the dry, shrunken, almost shrivelled aspect; nor is there the harsh skin and total absence of perspiratory secretion, invariably noticed in that disease. But the previous history of the case is the key to the apparently anomalous quantity of urine secreted, and illustrates the capability of one function to take up and continue a particular excretion, when another shall have ceased to act. For more than three weeks this patient had suffered from constant diarrhœa, large quantities of fluid being excreted from the bowels. During this period the urine was scanty, high-coloured, even sedimentitious, not from the presence of any unusual ingredients, but simply from a deficiency of aqueous fluid. This diarrhœa—the morbid discharge from the bowels—ceases, and the kidneys are now required to become again the channel for the excretion of the superabundant aqueous portion of the system. During the prevalence of the diarrhœa the patient suffered much from thirst, and since the cessation of it he has continued he says, more from habit than necessity, to drink largely both of cold water and tea; this may therefore, in a great degree, tend to keep up the supply to the kidneys of fluid matters, which without this pabulum to act on would probably now furnish but the ordinary average quantity of urine.

There are two cases of hæmoptysis at present in Burdett ward, and to the severer of these I wish to direct your particular attention. The hæmorrhage has in this case been more than usually urgent, and less under the control of remedies than is common in these affections. The man is 38 years of age, a farrier, tall, well made, apparently of robust frame, of fair complexion, limbs muscular and firm, rounded from the tendency to deposit subcutaneous fat, was admitted October 14th, and when visited in the ward, blood was being freely expectorated from the mouth, and portions from the nose. The blood was frothy and fluid, with occasional portions of stringy mucus. The effort attending the hæmorrhage could not be called a cough; it appeared as if it were a repetition of gulps, or short inspiratory efforts succeeded by a mouthful of blood. A large membranous mass, having at first sight the appearance of a nasal polypus, was drawn from the nose by the patient. On minutely examining the mass, it was observed to be muco-glutinous, and filled with air bubbles. No trace of fibrin could be detected in it. The patient states that while at work at the forge, and in the act of stooping, some blood came into his mouth; there was no previous sensation to warn him of anything unusual; no pain in the chest, nor antecedent symptoms of any kind. The hæmorrhage increasing, he came at once to the Hospital. For the last three weeks has suffered from severe diarrhœa, which he has neglected, but which had spontaneously ceased the day before. He states most positively that for years past he has never suffered from cough or pain in, or expectoration from, the chest. His health has been regular and good till he was attacked by the bowel complaint. There is no appearance of emaciation. The pharynx, velum, and tonsils, are perfectly healthy in appearance, and there is no look of congestion about the lining of the anterior nares. He has never experienced any diminution of the power of smell or taste, nor ever felt any obstruction to his breathing in the nasal passages. The chest is well

formed; no depression under the clavicles; it is uniformly expansive on inspiration; no deficiency of resonance in any region; nor can any rhonchus or morbid sound be detected anywhere. Heart's action perfectly rythmical; no bruit; pulse 108, jerking, and of a hæmorrhagic character. *Venæsectio e brachio ad, oz. x. Mist. Plumbi Acetatis, oz. j., quartis horis.* Tendency to syncope came on before six ounces were drawn, and the vein was closed. Pulse fell to 96, and was softer, less jerking.

On the 15th there had been no hæmorrhage for the last eighteen hours; bowels torpid; face exsanguious; pulse 96. The clot drawn yesterday was exceedingly dense and firm, and cupped and buffed to a remarkable extent. *Hydr. Chloridi, gr. iij.; Pulv. Scammon. Co., gr. x., statim. Haust purgans cras mane. Cont. Mist. Plumbi.*

On the 16th there was no return of hæmorrhage; the bowels had been well relieved; the tongue was pallid but clean; skin cool; pulse had fallen to 84. He complained of a sense of soreness about the chest, and there had been, during the night and morning, a short, hacking, irritative cough, with a trifling expectoration of a glutinous mucus, streaked with blood. The chest remained quiet till the afternoon of the 17th, when a profuse hæmorrhage again occurred, without any premonitory symptom, nearly ten pints of a frothy fluid of bright arterial character being ejected by the mouth. The pulse during the hæmorrhage was 104, sharp and jerking. The vein was again opened, but tendency to syncope appeared before four ounces were drawn. To continue the *Mistura Plumbi. Liqueur. Opii sedativi, dr. ss., ex aqua, sextis horis.* To swallow in water, or allow solid ice to melt in the mouth; hot applications to the lower extremities.

During the night of the 17th and the morning of the 18th, hæmoptysis again occurred. The pulse at the daily visit had fallen to 90, was very soft and compressible; the face was very pallid, and the lips nearly blanched. The blood taken from the arm yesterday again exhibited a remarkable excess of fibrine. During and immediately after the last attack, the chest was again minutely examined, and only while the hæmoptysis continued could any irregular sound be detected. On this occasion, in the mammary region of the right side a deep-seated bubbling or gurgling sound was detected, which could also be faintly heard posteriorly between the scapulæ. This sound had totally subsided on the next day, and after an interval of some eight hours from the last attack. For the next two days, the patient remained free from hæmorrhage; pallid, prostrate, and exhausted, from the large amount of blood lost. A brisk purgative was administered to relieve the bowels, which the mixture of opium necessarily influenced.

On the 21st hæmorrhage again occurred. At about 8 a.m. he expectorated nearly a pint of the same frothy arterial blood. A more decided rhonchus was this day detected in the right side. No other physical signs were observed. Pulse small and contracted; face and lips very pallid; eyes glassy; pupils contracted; tongue dry. These symptoms were referred to the influence of the opium. A large blister was directed to cover the anterior surface of the chest, and a strong purging draught directed to be given. The object of the blister was to obtain a revulsive action

on the surface of the chest, by which a certain amount of blood might be diverted to the inflammatory condition excited by the cantharides, and the strong purgative to act with a similar intent upon the intestinal mucous surface; for, during the action of these saline and resinous purges, a large amount of blood must be drawn to the mucous membrane to supply the secretion which is so copiously excited. By thus withdrawing from the pulmonary circulation, and engaging a certain volume of blood in opposite directions, and remote from the organ, the seat of the hæmorrhage, and thus diminishing the quantity of blood circulating in the lungs, the tendency to further loss of blood from this source might be arrested.

At the visit this day, October 23rd, you heard read from the ward book that no hæmorrhage has occurred since the 21st. The patient is very low; face pallid; pulse soft, but has lost the hæmorrhagic character; bowels continue to act freely; the blister rose well, and it will be advisable to keep open the vesicated surface by the savine ointment.

On the 25th no recurrence of hæmorrhage during the last forty-eight hours. The patient is tranquil, but low. Cautious administration of dietetic stimuli ordered; jelly, beef-tea, milk, and arrowroot.

I now wish to direct your attention to the causes and pathological conditions upon which this form of hæmorrhage more immediately depends. Hæmoptysis may arise from one of several causes. The breaking down of a tubercular deposit, and the laceration of one of the pulmonary arterial vessels passing through or into this deposit. It may depend upon disease of the heart; hypertrophy of the right ventricle, the impulse of blood by the ventricular systole being more forcible than the capillary structure can resist. It has arisen from a condition of the parenchyma of the lung, known as pulmonary apoplexy; a clot is formed analogous to that observed in cerebral apoplexy; the walls by which the clot was retained become ruptured, and fluid arterial blood is profusely poured into the bronchial tubes: and, lastly, hæmorrhage from the lungs may result from simple congestion of these organs, brought on by some circumstance which interrupts the balance of the circulation; a state of pulmonary plethora exists, which is relieved in those of the hæmorrhagic diathesis by a copious secretion of blood from the bronchial mucous surface.

Now, each of these causes of hæmoptysis is attended by certain collateral conditions, which, in the majority of cases, enable us satisfactorily to assign with some degree of certainty the latent cause of the hæmorrhage. Thus in the hæmoptysis which accompanies, or is dependent on, tubercular disorganization, the chest when examined by the stethoscope develops more or less dulness under the clavicles; or, if a large cavity has already formed, a greater resonance than usual; there is absence of the vesicular respiratory murmur; either pectoriloquy or bronchophony in parts where no echo of the voice in the tube should be detected; and in addition to these physical signs of tubercular deposit, the characteristic evidences of the phthisical condition are perhaps added. I may pass by the evidences of pulmonary apoplexy, as it is a rare affection, merely reminding you that for the most part it is a concomitant of hypertrophy of the right ventricle. If the hæmoptysis be dependent on disease of the heart, a careful examina-

tion of this organ by auscultation will develop an increase of impulse, a want of rhythm in the sounds, a prolongation of the systolic over the diastolic, or perhaps evidence of some valvular obstruction. If neither the lungs nor the heart present symptoms of disease, or of any conditions calculated of themselves to bring on hæmoptysis, we must then look to the system at large for some circumstance which, interrupting or disturbing the equilibrium of the circulation, has tended to throw upon the lungs a larger volume of blood than natural, and thus induced plethora or congestion of these organs. Now, there are many conditions in which the system may be placed by disease, by accident, by posture, in which, independent of any morbid state of the lungs themselves, these organs have a larger volume of blood directed to them than the pulmonary function can maintain; plethora results, and where the hæmorrhagic diathesis prevails, hæmoptysis follows. The sudden cessation of some accustomed discharge may be cited as a not infrequent cause of pulmonary congestion. In women, in whom no trace of pulmonary disorganization existed, hæmoptysis has occurred, and that periodically till the uterine function had again become regular. It has been noticed at that particular period of a woman's constitution called the critical, when the menstrual function is about to cease. A woman in St. Margaret's ward, during this last summer, suffered from hæmoptysis, which could be traced to no other cause. The sudden cessation of an hæmorrhoidal flux has been followed by hæmoptysis. Such are, for the most part, the predisposing causes to this form of hæmorrhage.

Now let us review the history and previous condition of this patient, and ascertain if possible, to which of these causes we are to attribute his hæmoptysis. His chest is well formed; it rises fully and equably on inspiration; there is no dulness nor deficiency of respiratory murmur in any region; nor any irregular re-echo of the voice. He has never been subject to cough, or pain of the chest; nor ever expectorated. The blood brought up, does not come up in *gushes*; it is not clear and fluid, but frothy. It is not likely therefore, that the attack is caused by tubercular disorganization. The heart's sounds are natural, equable and rhythmical; impulse not increased; he has never suffered from palpitation in any form. This hæmorrhage therefore cannot be referred to disease of the heart. Now examine the blood as it comes from the patient's mouth,—it is highly frothed, so much so as to present a similarity of appearance to blood that is being whipped for the separation of the fibrin. This hæmorrhage does not cease suddenly, but for several hours after the full force of an attack has subsided, glutinous portions of mucus are expectorated, frothy and streaked with blood. The pulse throughout has presented the true hæmorrhagic character. No physical signs can be detected except that during or immediately after an attack of hæmorrhage, a deep-seated, distant, and obscure bubbling is heard in the mammary region of the right side, over which spot dulness was on one occasion, during the expulsion of blood, detected. Note down an incident or two of his past history:—For three weeks previous to this hæmoptysis, he had been suffering from severe and neglected diarrhoea. This diarrhoea had ceased on the day the hæmorrhage occurred. The blood

came into his mouth while in the act of stooping, his head being bent downward, and his body in the position of a farrier engaged in preparing a horse's hoof for shoeing. Here are two conditions directly predisposing to pulmonary congestion,—a sudden and spontaneously checked diarrhoea, and a posture eminently favourable to accumulation of blood in the lungs. However, these conditions are not in themselves sufficient to bring on so severe an attack of hæmoptysis; there must have existed previously the hæmorrhagic diathesis,—a proneness and disposition to congestive plethora in those organs, which being acted upon by the above named concomitant circumstances directly manifested the hæmoptotic attack. A retardation of blood in the pulmonary capillaries, a condition of active hyperæmia of the bronchial mucous membrane, and pouring forth of blood from the ramifications of the bronchi, were the successive series of morbid phenomena antecedent to and immediately causing this disease. Whether the hæmorrhagic predisposition in this case depends on a *tendency* to tubercular deposition; whether, as some of the French pathologists affirm, this hæmoptysis is to be taken as evidence of a series of inflammatory symptoms acting as the essential cause of phthisis, or not; no attack of hæmorrhage from the lungs, except in cases palpably the result of vicarious menstruation, can be viewed otherwise than as expressive of some serious alteration in the integrity of the pulmonary tissues, and tending sooner or later to develope disease more or less fatal to the sufferer.

In conclusion I may remark that it is interesting to witness the varied effects succeeding to conditions of the intestinal canal apparently identical. Here are two individuals both of whom have previously suffered from severe diarrhoea. In the one it yields to remedial measures; in the other it stops spontaneously. In the former, remarkable diuresis follows, in the latter a frightful, almost death-striking hæmorrhage from the lungs. The coincidence of two such cases is remarkable and presents us ample material for thought and reflection.

OBSERVATIONS ON THE OXALIC DIATHESIS, AND THE INFLUENCE OF THE RHUBARB PLANT IN ITS PRODUCTION.

By JOHN S. BARTRUM, Esq., Surgeon, Bath.

Having for some years been in the habit of paying attention to the general and chemical conditions of the urine, it was with much pleasure that I perused the paper of Mr. Wilson, inserted in No. 35 of the *Provincial Journal*, (September 2, 1846,) especially from having, on several occasions within these two or three last years, noted in my own person, the effects on the urine of the rhubarb stalk and other articles of diet. The portion of urine passed after rising in the morning was always examined by the microscope without heat, as the shortest and not fallacious mode.

Being apparently in the most perfect health, excepting rather overworked, and as far as unlike a patient suffering from oxaluria as possible, at first I could scarcely believe myself to have passed oxalate crystals, till confirmed in my supposition by Dr. William Budd, who immediately remarked that I must have been eating rhubarb, which, however, had not been recently

the case. This induced further and oft repeated examinations, the general results of which I can only now give, having not long since destroyed the daily records, considering them as not worth keeping.

While passing the smaller oxalates, and then partaking freely of rhubarb, the first effect was generally to increase the size and quantity of oxalates thrown down, with the occasional addition of some of the reniform bodies; the diet being continued, the crystals of all shapes increased in size, especially the latter, till on two occasions they almost solely were passed. However, after a day or two, the oxalates diminished, and then disappeared, although rhubarb was still partaken of; this may probably be explained by having regarded the appearance of the oxalates, as a sure warning that I must give myself more relaxation. The results have been similar on two or three occasions, when from continuous exertions I have expected their presence and found them; but I have never been able to induce their appearance by the freest use of rhubarb, except in the very fine cuboid forms, for a day or so, unless they were previously present.

If Mr. Wilson continue his inquiries, I think he will find, that any article of diet, adding to the irritability of the kidneys and bladder, will induce an additional secretion of the oxalates; for I always found, that partaking freely of water-cresses added materially to the quantity of oxalates, provided I were already passing them, from the irritation of the bladder, caused by the abundant secretion of free lithic acid. Whether the elimination of oxalates, as well as of lithic acid, was due to the water-cresses, or the common salt accompanying them,* I cannot say. That must be left for future investigation.

It will be found almost universally, that cases characterised chiefly by deposits of oxalates are combined with an asthenic condition of the assimilating organs; some of them corresponding closely with those caused by the excretion of an abnormal amount of urea, the urine then being dense and loaded with lithates, while others, from the excessive excretion give rise to a suspicion of diabetes mellitus, so much so, that of the many specimens sent me for examination, where a large quantity of urine is voided, the greater proportion are of low specific gravity, with some few small oxalates, and often swarms of vibriones. These latter cases, however, are essentially cases of want of nervous power without any specific ailment, sometimes passing phosphates, sometimes oxalates, according to the varying condition of the system, which always displays a very reduced vitality.

In this, as in all other diseases of the urinary organs, where chemistry is called into our aid, there is great danger of their being treated as though the body were a mere laboratory, wherein we could modify these secretions at our will, overlooking the essential cause of the ailment; but, however useful and necessary such examinations may be, it behoves the practitioner carefully to eschew being implicitly guided by them; as some cases of this disease are treated successfully by alkalies, others by acids; some by a restricted, others by a generous diet; for though medicinal remedies are most useful, and in the majority of cases requisite, they will be of little avail, if not well supported by carefully-applied general and dietetic measures.

* *Vide Provincial Journal*, page 415.