Lecture ON CLINICAL TEACHING.

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GENTLEMEN,—As I have the honour to deliver the first course of lectures from a new chair in this College, and as a special teacher of clinical medicine is still comparatively rare in English medical schools, it may be expected that I should say a few words, by way of introduction, as to the manner in which I propose to conduct the course.

And, first of all, let me tell you that it is not my intention to deliver clinical lectures, such as are commonly understood by the term, and such as you may have listened to elsewhere. Until a few years ago there was no teaching in any of our British medical schools which deserved the name of clinical; and, if I am rightly informed, there are still many medical schools where the sole clinical instruction consists in the delivery by the physicians and surgeons of an occasional systematic lecture upon some disease, with one of the hospital patients, whom the majority of the audience may never have seen, to serve as the text; while the student is left to pick up what practical knowledge of disease he can in walking the wards, and these, if he be idly disposed, he may rarely, if ever, enter. At the best, the ward visit usually consists in a dictation of notes by the physician, or in his calling attention to certain physical signs or symptoms in a case which by many students are unheeded, and by none are connected with the entire clinical history of the case. But medical students, in order to learn their work, must not only see the patients as they pass their beds, but handle them, question them, and use all their senses in finding out their symptoms for themselves.

In the study of all departments of natural science it may be truly said that what appeals to the senses makes a greater impression than that which appeals to the judgment and reason; and in no department is this remark more appropriate than in that of disease. To obtain a practical knowledge of disease and its treatment, the student must watch it in its various phases, he must learn to exercise every sense which he possesses—his eyes, ears, fingers, and even his nose—in its study; he must note the endless varieties which the same disease presents in different patients, and which he will find recorded in no other book than that of nature, and he must endeavour to discover the natural course of each disease, and how far this appears to be modified by treatment. In all cases he ought carefully to note the effects of the remedies employed.

It was one of the many merits of my esteemed master, the late Professor Syme, of Edinburgh, that he rescued the clinical teaching of surgery from the unsatisfactory condition in which he found it. The plan which he followed was this. A number of patients, derived partly from the wards and partly from the out-patient department, were brought in succession into the lecture-room, the prominent characters of their maladies were concisely described, and a few remarks were made on their diagnosis from those other diseases with which they were most apt to be confounded, and on the appropriate treatment. The students on the front benches were frequently invited to examine the patients for themselves.

It is clear, however, that this plan would not answer in the case of most medical diseases, the characters of which are more difficult of demonstration, and can only be thoroughly learned at the bedside. Those of you whom I have already had the pleasure of instructing are well aware that I have always insisted that clinical medicine cannot be taught by lectures, but must be learned in the hospital wards. You must not now draw the conclusion from the institution of this course of lectures that I have in any way

modified my opinion. These lectures are intended to supplement, not at all to supersede, the instruction in the wards. Let me, then, very briefly detail to you the plan which, here and elsewhere, I have followed during the last eleven years, and which I still intend to pursue at our clinical conferences in the hospital wards; and in the next place show you how, in my opinion, these lectures can best supplement the instruction which you receive at the bedside of the patients.

The plan, then, which we follow in the wards is this: those students who wish to take part in the clinical examinations are invited to give in their names to me, and each student so doing is examined in turn. At one time he is called upon to examine a patient who has just been admitted into the hospital. He is taught the art of eliciting by cross-examination a true account of the patient's previous medical history; he is taught never to stop short at what appears to be the first and most obvious conclusion as to the nature of the case, but to note the morbid phenomena in each physiological system of the body, the normal or abnormal physical conditions of the different internal organs, and the chemical and other changes in the various secretions. Having done all this, he is called upon to make a diagnosis of the malady, and a prognosis as to its probable course, to suggest a line of treatment, and, if necessary, to write a prescription. At another time he is questioned with regard to patients who have been already under observation, and whom he has seen examined at a previous visit. He is called upon briefly to recapitulate the facts made out at the former examinations, to note the changes which have taken place since the patient's admission into hospital, to reconsider when necessary the original diagnosis, to state the remedies which were prescribed, to note whether the results expected from these remedies have been produced, and to suggest the expediency of maintaining or altering the treatment. All these examinations and suggestions are, of course, made under the guidance and control of the clinical physician, to whom, in the course of every examination, many opportunities offer themselves for making clinical remarks.

By the plan which I have described, those students who were not present at the original examination of the patient are put in possession of the principal facts of the case, and the attention of the whole class is secured, as no student can be certain that he may not on a future occasion be called upon to undergo a similar examination upon the same case. Moreover, this plan teaches the student the art, so often wanting in medical men who may yet have a thorough knowledge of their profession, of conveying to a professional brother an accurate, and yet concise, statement of a patient's medical history and present condition. It has been a source of no small gratification to me to find that the plan of clinical teaching which I have now endeavoured briefly to describe has met with the unqualified approval of many distinguished members of the profession, from all parts of the world, who from time to time have done me the honour to accompany me in my clinical visits, and by whom I have been repeatedly assured that if students do not by this system speedily acquire a thorough knowledge of disease, the fault must be entirely their own. At all events, I think it must be generally admitted that some such system is calculated to impress clinical facts upon the mind of the student in a more sure and permanent manner than that by which the physician, however able he may be, makes a few remarks at the bedside of each patient, and then passes on to the next.

It is obvious, however, that for this plan to be successful, your cordial co-operation is required. It is necessary that a sufficient number of you should give in your names for examination, and that, having done so, you should make a point of being present at the clinical visits. Without your co-operation, the whole plan must collapse. And here I must observe that I have found rather a want of alacrity on the part of students to avail themselves of what I believe to be the best means of acquiring a practical knowledge of their profession. With a few brilliant exceptions, there has apparently been an unwillingness to run the risk of making a mistake in the presence of their fellows. Permit me to make a few remarks with the object and in the hope of removing this feeling.

1. The student who comes forward in the manner that I have described before the whole class is not only taught

himself, but he himself becomes a clinical teacher. His difficulties, his suggestions, and even his mistakes, become the means of teaching the rest of the class. The blunders you make show you how to avoid them for the future, and in the meantime furnish me with a capital opportunity for clinical remarks.

2. You are to bear in mind that the best and most experienced physicians are constantly making mistakes in examining patients and in the diagnosis of their diseases.

3. Although a mistake sometimes excites a smile or a laugh, the students who laugh most are usually those who do not take part in the examinations themselves, and are the least entitled to laugh.

4. It often happens that they who make the most mistakes at first in a few months turn out to be the most expert observers.

5. A time will come to most of you when, having finished your studies, you will endeavour to obtain public appointments or otherwise to settle in life and you will apply to your former teachers for testimonials of competency. It is a common belief among students that because they have gone round my wards they are fit to perform certain duties, and that I am bound to testify to this. Now, I ask you for a moment to put yourselves in the position in which I am often placed with regard to this matter. What can I certify from mere attendance in my wards? Nothing but the fact of attendance, which, by the way, I have no means of testing. I have no means of judging as to your medical knowledge or ability to practise your profession. It is of course quite otherwise with regard to those students who take part in my clinical examinations, and of whose names I preserve a record for subsequent reference; and I wish it to be known that I give no testimonials to students who have not been members of my practical class or who are not personally known to me.

6. Lastly, I would have you to remember that I can have no object in following the plan of clinical teaching which I have sketched but your good. Were I to adopt a different plan, I could see my patients in half the time which I now devote to them and you, and dispose of the time thus saved to my own advantage; while at the same time I would be able to investigate and record the phenomena of disease for my own instruction and benefit, from which by the system followed I am often debarred.

Having now shown you that for my teaching in the wards to be successful your co-operation is necessary, I trust that at the close of this lecture I shall receive the names of a large number of gentlemen willing to assist me.

One objection I have heard raised to the plan of instruction in the wards which I have described I must briefly refer to. It is said that the patients may not like it, and that they may think they come to hospital to be cured of their ailments, and not to be hammered and poked about by a number of young students. This objection would certainly be a very serious one if it had any real foundation, but I do not believe that it has. Most patients have the sense to see that their maladies, by the plan we follow, are being sifted to the bottom in a manner they could never hope for out of the hospital; and, indeed, it has repeatedly happened that patients who have not been examined by the clinical class, although receiving all the care and attention of ordinary hospital patients, have considered themselves neglected. Care of course is taken with regard to patients who are very ill that they are not subjected to any examination calculated to do them harm; and in every case a little tact on the part of the physician prevents anything being said likely to hurt the patient's feelings, such as the mention of the words "cancer" or "syphilis," while the opportunity is taken of throwing in from time to time a word of encouragement. I trust that it is scarcely necessary to remind you that when you take part in these examinations you ought to address the patients, not as if they were mere tools for your instruction, but in such a way as to make them feel that you sympathise with their troubles—in short, in such a way as you yourselves will wish to be addressed when, hereafter, you are perchance the subjects of some of the ailments from which they now suffer.

Now let us attend for a few minutes to what appears to be the plan best calculated for making these lectures supplementary to the teaching in the wards.

And, first, occasions will no doubt arise when I may consider it expedient to devote an entire lecture to the elucidation

of a difficult case. Rare, or as they are sometimes called "good," cases are no doubt interesting to the advanced student, but they are not the best for clinical instruction; while most of you are merely commencing the study of your profession, and will learn more from cases of everyday occurrence than from such as you may never again encounter in practice.

Second. The plan which I shall mainly follow will be to bring before you very concisely the prominent features of a number of different patients, and to dwell particularly on the diagnosis and treatment of the diseases of which they are the subjects. Whenever it is possible the patients will be placed before you in the lecture-theatre, so that a larger number of you will have an opportunity of seeing them than will be always possible in the wards. Although these patients need not necessarily be resident in the hospital, most of the cases will probably have already been the subject of remarks in the wards, and it may sometimes appear that what I say in the lecture is a useless repetition of what I have already said at the bedside. But my experience of teaching has impressed upon me the necessity of repeating the same thing over and over again before many students take it in. A student will often remember a number of trivial details about a patient, but it requires practice to be able to seize and to store in the mind the essential facts. The great object of the clinical teacher should be to place himself in the situation of the students, to remember the difficulties which he himself encountered at their age, and to repeat what he has to say again and again, and to vary the way of putting it, until he satisfies himself that he is understood. The clinical teacher who does this will, in my opinion, be far more successful in what ought to be the great aim of all clinical teaching, than he who begins his lecture by reading to his class the minute details of some obscure case, and winds up with some ingenious speculations as to its probable nature.

Third. The clinical lecture will offer an opportunity of discussing the prognosis, which, in many cases, it would not be expedient to do in the presence of the patient.

Fourth. It will also afford an occasion for considering the mode of termination of the maladies from which our patients suffer, for reviewing their clinical history after they have recovered, and for determining in fatal cases how far the lesions found on post-mortem examination harmonise, or are at variance, with the observations made during life.

Fifth. I shall frequently avail myself of these lectures to point out to you the various morbid conditions which may give rise to the same prominent symptom, and the means of determining the particular cause in each case. I have a lively recollection of the difficulties which I experienced in doing this when I commenced practice, and of the little assistance I received from books. In many cases, indeed, the difficulty in determining the particular cause is great, or, perhaps, insurmountable, even to the most experienced among us; but it shall be my object to teach you how it may be best overcome. I purpose then, in different lectures, to bring before you the various causes of headache, convulsions, dyspnoea, jaundice, dropsy, hæmoptysis, the typhoid state, albuminuria, &c., and to lay down rules for your guidance in ascertaining the cause of these symptoms in the many cases which you will meet with in practice.

Sixth. I shall also, from time to time, in these lectures endeavour to teach you the best methods of examining a patient, and of determining the physical changes effected by disease upon the different internal organs, such as the heart, lungs, liver, &c., and of recording these and other morbid symptoms. During the present session I hope to give a lecture upon case-taking.

You will see then that, while your knowledge of disease and its treatment will be mainly obtained in the wards, it will be quite possible in these lectures to convey to you information which cannot be given at the bedside, and also which you are not likely to obtain from systematic lectures on medicine.

In what remains of this lecture I shall bring before you the cases of two patients now in the wards.

1. *Lead Palsy.* The first case is a good illustration of one of the effects of lead-poisoning.

Results of lead-poisoning are—1. Colic. In all cases of colic keep in mind the possibility of its being due to lead. 2. Paralysis. 3. Epileptiform attacks. 4. Blue line along

margin of gums. How explained? 5. Gout and albuminuria.

Causes of lead-poisoning various. Occupations. Some persons preternaturally susceptible to lead, so that causes may be very slight; examples.

Characters of the paralysis due to lead.—Attacks first the muscles supplied by radial nerve, the extensors of hand, fingers, and thumb. Important bearing of this fact upon mode of action of remedies in disease; certain drugs show a predilection for certain tissues and organs of body. Muscles of right forearm affected first and most. Dr. Todd's explanation of this. Observations on left handed persons. Next to extensors of forearm and thumb, triceps and deltoid are implicated; occasionally muscles of lower extremities attacked, or paralysis may become general. Muscles named lose their power of contracting and then waste; deformities resulting from this wasting. Wasting not due to degeneration of muscular tissue. Electro-contraction lost, but sensibility retained.

All these characters well marked in patient exhibited to class. William W—, twenty-six, a brass-founder, admitted Sept. 21st. Colic and paralysis of extensors of forearms three years before. Paralysis lasted for nine months, but got well, and patient resumed his work. Six months ago colic and paralysis returned. Patient gave up employment, but paralysis increased. Never had gout: but urine contains a little albumen, and sp. gr. 1010.

Prognosis in lead palsy usually favourable; but bad in proportion to—1. Duration. 2. Wasting of muscles. 3. Failure of remedies. Our patient already considerably improved under treatment.

Treatment:—1. Prevention, cleanliness, sulphuric acid. 2. Change of occupation after paralysis declared; this ought to be permanent. 3. Elimination by (a) purgatives, (b) iodide of potassium, mode of action; (c) sulphur baths, two ounces of sulphide of potassium to fifteen gallons of water. 4. Nervine tonics and iron, nux vomica, galvanism—interrupted current to individual muscles, friction, and shampooing.

The next case which I shall mention to you is one of

2. *Gangrene of foot following enteric fever*—not very common. Dr. W. W. Keen, of Philadelphia, in a valuable memoir "On the Surgical Complications and Sequels of the Continued Fevers," recently published,¹ referring to my work on Fevers, says that, although I have seen a few cases, I do not refer to a single English post-mortem. This sequel of fever, however, is more common in Britain than might be inferred from this quotation. I have seen a considerable number of cases, and many will be found in English medical literature.

Gangrene in fevers from two causes—viz.: 1. Pressure, causing "bedsores" on sacrum, trochanters, heels, ankles, elbows, and occiput. 2. Thrombus in arteries. This form, known as "spontaneous gangrene," is most common in feet, but may occur in hands, nose, tips of ears, penis, vulva, or soft parts in front of chest or abdomen. Case quoted from Patry, where a thrombus in external carotid artery caused gangrene of external ear, which spread to forehead, cheek, and eyelids. The same cause may lead to embolic masses in lungs and spleen, and to necrosis of bones in the course of fevers. These results are most apt to occur in persons of very weak circulation, or who have been reduced to a state of great exhaustion by a severe or protracted attack of fever.

Thrombi may also form in the veins (particularly the left femoral) as a sequel of fever; but here the result is œdema, not gangrene. Resembles the "white leg" of puerperal women.

The local signs of gangrene from arterial thrombus are usually preceded by great pain in the part, but not invariably. It was not so in our patient. Great pain usually attends the formation of the line of demarcation, and of course no pulsation can be felt in the artery leading to the gangrenous part.

As to treatment, I have in some cases found the local application of cotton-wool sprinkled with a few drops of turpentine avert what appeared, from the coldness and lividity, to be an impending gangrene of the foot or nose; but most commonly, as might be expected from the cause, the gangrene advances up to a certain point, notwithstanding

all that is done. A line of demarcation ultimately forms, and, as soon as this is well marked in a limb, amputation must be had recourse to. In the meantime, opium, often in large doses, is required to relieve pain and procure sleep, and quinine, with a moderate amount of alcoholic stimulants, is called for to maintain the patient's strength.

These remarks suggested by case now in wards. Charles C—, aged thirty-four, admitted July 23rd; ill three weeks; off work one week. On admission: Pulse 120; temperature 102.2° to 104.3° F. Rose spots; slight diarrhœa; trace of albumen in urine.—27th: Delirium and stupor.—31st: Ditto with subsultus; urine in bed; tongue dry.—August 2nd: Fresh spots.—5th: Delirium violent; attempts to get out of bed.—7th (thirty-sixth day): Temperature 103.7; cold bath. This reduced temperature for a time and quieted nervous symptoms, but pyrexia continued for another week.—14th (forty-third day): Temperature normal.—16th: Temperature keeps normal, but still some delirium and some hæmorrhage from bowels; ice to abdomen. About this time there was found to be no pulsation in left radial and brachial arteries; but cessation was temporary, and no gangrene resulted.—20th (forty-ninth day): Right leg and foot cold and of a waxy aspect.—21st: Livid patches on dorsum of right foot; no pulsation in right popliteal and femoral arteries; much pain in right leg. After this gangrene continued to spread from right toes along foot till about September 1st, when it ceased to spread, and line of demarcation commenced four or five inches above ankle. At first the process was unattended by pyrexia. From Aug. 30th to Sept. 6th there was slight pyrexia, but temperature never exceeded 100.7°. On Sept. 4th it was found that pulsation was restored in right femoral artery, but not in the popliteal. This was probably due to a displacement of the plug downwards. Simultaneously with this there was great pain and some swelling in popliteal space; and on Sept. 7th and 8th there was high fever, the temperature reaching 104.2°. There was also a painful swelling of the glands in right groin; but no rigors, and no indication of secondary mischief in internal organs. On Sept. 9th and 10th temperature fell to 102.2°, and after this pyrexia abated.—Sept. 24th: Extreme emaciation; no pyrexia. Line of demarcation well formed; great pain in leg above this, requiring morphia to induce sleep.—26th: Leg amputated below knee by Mr. Clutton.—Oct. 5th: So far patient doing well.

Introductory Lecture

TO THE

COURSE OF SURGICAL LECTURES

To be delivered in the Session of 1877-78,

By HENRY SMITH, F.R.C.S.,

PROFESSOR OF SURGERY AT KING'S COLLEGE, AND SURGEON TO KING'S COLLEGE HOSPITAL.

GENTLEMEN,—In addressing you from this place for the first time I hope it is not necessary for me to assure you that I have a very deep sense of the responsibility of my position and of that which is required at my hands. This feeling is especially enhanced when I reflect that I have to follow in the footsteps of my old friend and colleague, John Wood, who has held this chair for six years, and whose career as a teacher has been followed by the greatest success. It is not necessary for me to do more than refer to the conscientious faithfulness and unwearied ardour which marked the character of my immediate predecessor as a teacher both in this chair and in the wards of our hospital. I know that all those who profited by his lessons have thoroughly appreciated the earnestness and fidelity with which he has at all times urged upon you the important truths with which his own mind is so well stored, and I feel sure that it would have been a subject of congratulation if you could still have had the advantage of his teaching within these walls; but it is otherwise ordered, and I must congratulate you on the fact that the usefulness of my distinguished colleague and friend

¹ The Toner Lectures, published by the Smithsonian Institute. Washington, 1877.