LECTURES ON CLINICAL PRECISION.

Delivered at St. Bartholomew's Hospital.

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I.

WHEN, gentlemen, I spoke some time ago of the treatment of wounds, I ended by saying that good results were to be attained by a strict adherence to the well established rules of surgery. I now propose to tell you of some of the details which require your attention, if you would practise your art with what may be termed clinical precision.

It must be well known to you that surgeons have at all times striven to perfect, so far as perfection is attainable, the details of treatment. To this end, they observe closely, and now more minutely than ever, the surroundings of, and the signs given by their patients. You may read evidence of this care in such commentaries as those of Mr. Hilton; it is apparent throughout the clinical lectures and essays of Sir James Paget; and in the same direction tend the observations made by Mr. Savory respecting the examination of patients before operating upon them. If, too, we take the treatment of wounds by Professor Spence, by Professor Humphry, by Mr. Stokes, or by any surgeon who has had successful experiences, you will find, however they may differ on some points, that all in common insist upon the need of extreme care, and upon the absolute avoidance of errors, whether of omission or of commission, in the management of their cases; and the results which have been obtained of late years in the treatment of wounds, whether accidental or made during surgical operations, are due, no doubt, to this minute care for details.

As a preface and an illustration, let us take the returns from our own hospital for the last four years, and we shall find that one hundred and seventy amputations of the leg, thigh, arm and forearm have been treated in the wards, and that of this number twenty have died. But with these fatal cases, you must remember, are counted some in which primary amputation had to be practised on patients nearing 80 years of age; some in which severe concurrent hurts have been the cause of death; cases, too, in which the accidental intercurrent of meningitis, or the exhaustion due to phthisis (an amputation having been performed as a doubtful expediency), has determined the fatal result. If you keep such facts in mind, and allow for them, you will see that a loss of 11 per cent. in all these amputations is a comparatively low death-rate.

Further, referring to personal experiences, let me add that, during the last five years (which is the time I have held office as surgeon to the hospital), of sixty-six compound fractures which have been admitted under my care, all have recovered, six requiring primary amputation (see Table I); and of another class of cases which may be taken as illustrating general results—the amputations—forty-nine have been treated, of which number three died (see Table II). Of the lacerated wounds, many of great severity, of the trunk and of the extremities (not immediately fatal through injuries to internal organs and vessels), all have recovered, and in no one instance has it been necessary to resort to a secondary amputation. Amongst 405 operations performed in the theatre (irrespective, that is, of lesser ones practised in the wards), there have been but three cases of blood-poisoning, for each of which I hold myself answerable, as having allowed certain precautions to be neglected; and, amongst all patients under treatment, there has been only one case of tetanus, which was due to direct irritation by stretching of the popliteal nerve; but, although the contrary has been suggested, this is a complication, so far as my experience goes, not dependent upon any unclean condition of a wound.

Let these facts, then, justify me in asking your attention whilst I refer to some of the details; for I do not pretend to exhaust the list, upon the observance of which I believe that the well-doing of your patients must depend, and let us approach their consideration, as we conveniently may, from three starting-points. 1. Let us briefly view the surroundings of our patients, and take some note of the appliances, if it be necessary to use any such, which we should devise and employ. 2. Let us criticise the condition of our patients, consider their individualities, and how far nature may be trusted to heal their hurts; what may be done to prepare them for going through an operation, whom to shun and whom to encourage to submit to surgical interference. 3.

Let us see how best, that is, most safely, they are to be steered, after an accident or an operation, through the period of overaction, and how most quickly convalesced. And, in all these considerations, let us regard the subject from our hospital stand-point; for, if by precision of treatment, good results can be obtained in these wards, we may be quite sure it will be admitted that elsewhere equal success will be attainable.

TABLE I.

Compound Fractures	No.	Rec.	Amp.	Died.
Of Humerus	3	3	..	..
Of Humerus into Elbow-Joint	6	6	2	..
Of Radius or Ulna, or both, into Elbow-Joint	4	4	..	..
Of Radius and Ulna	5	5	2	..
Of Femur	2	2	..	..
Of Femur into Knee-Joint	3	3	1	..
Of Patella into Knee-Joint	1	1	..	..
Of Fibula	2	2	..	..
Of Tibia and Fibula	28	28	..	..
Of Tibia and Fibula into Ankle-Joint	5	5	1	..
Of Superior Maxilla	5	5	..	..
Of Inferior Maxilla	2	2	..	..
Totals	66	66	6	..

In the primary amputations, the ages were 45, 56, 8, 27, 33, 9. *

TABLE II.

Amputations at the	No.	Recovered.	Died.
Hip	1	0	1
Thigh	22	20	2
Leg	17	17	0
Arm	3	3	0
Forearm	6	6	0
Totals	49	46	3

Of these patients, the ages were as follow: Under 20, 13; 20 to 30, 13; 30 to 40, 11; 40 to 50, 8; 50 to 65, 4. Of the fatal cases, the ages were: Hip-amputation, female, 36; thigh, both females, 51 and 39. To the above I ought to add another fatal thigh-amputation, of which I accept the responsibility, although the operation was not performed by myself.

Now, what can be said of the surroundings of our patients? Should they not be surrounded by air pure in quality and sufficient in quantity, and is not overcrowding a self-evident error? In this hospital, the change of the air and the purity of the air (from a practical, not from a philosophical point of view) is ensured by the simple ventilation through open windows and the lofty aperture of the fire-place. I know of no better ventilation than this, and with it the wards have always that sense of freshness on entering them which is a rough but fair test of their health-condition. It has been said that patients, or some of them, must suffer from air moving thus freely about them, but such is not the case. We see that they are thoroughly well covered as they lie, and they are thus effectually guarded against cold; and, in all the years this free ventilation has been enforced in my wards, no troubles have arisen from chills or coughs or other complications, such as draughts, are credited with causing. No ward should be overcrowded with such suppurating cases as chronic abscesses; at least it is undesirable that too many such cases should be gathered together, and those lying in a ward should be distributed, and should not be clustered in one part of the room; and it may be added, lest this statement should be referred to as raising a practical difficulty in the way of treating cases in large wards, that we have never had any trouble, with the ordinary run of admissions, in arranging so as to avoid any concentration of suppurating cases. There are other cases, however—patients suffering from erysipelas, extravasation of urine or incontinence (complaints which are probably infectious, or troubles which cause bad smells)—which have at times to be admitted when the wards especially provided for them are unfortunately full. Now, when any such case unavoidably enters a ward containing cases for operation, it is an absolute rule with me not to practise any operation, however trivial, until the risk of infection or tainting is over; nor, under any circumstances, is such a case allowed in a ward in which there may happen to be a patient who has been recently operated on, unless the length of the ward separates them; and even then the admission is reluctantly permitted, and only tolerated when unavoidable. And here let me add that these arrangements are those which we endeavour to keep to as the best. It must not be thought, however, that the presence, for instance, of open abscesses and the like produces any bad result; for the discharges are always kept by treatment inodorous, and, indeed, also, under treatment, soon cease, and accidental and operation-wounds will

do well in such company; only they are not the cases with which from choice we should wish to surround patients having recent wounds, especially as it needs constant watchfulness to prevent communication between such neighbours. No patient, indeed, should be allowed to come into contact with another in any way; each one is practically isolated, the dressings for each one are kept separate, and, unless rules be wilfully broken, no soiled hands approach a wound to touch it. When an operation is decided upon, the site of the patient's bed is carefully chosen; if a bed be vacant in the ward, he has the benefit of the greater space; if not, a patient who is up during the day, or one not suffering from a wound or from any discharge, one who is undisturbed by pain, and who rests well, should be selected as the neighbour, and the beds in the ward should be shifted, if necessary, accordingly.

Need it be added that the wards should be scrupulously clean. Perhaps one grows to be over-particular, but one cannot err in insisting that the room should be systematically cleansed from day to day, so as to avoid all accumulation of dust, and in seeing that the soiled dressings are burned or removed, and that no excreta are left about in the ward. It is very well to say that, by the use of antiputrescents, all risks are avoided; but an untidy ward means carelessness on the part of some of the officials, which may grow into neglect of more important details.

Well, you will say, all this has long been known. It is true that it has; but it has not been rigorously observed in practice. I have been in wards—I do not so much refer to this country—in which, from non-observance of these precautions, the surroundings of the patients have been such that no one could wonder at a terrible mortality after capital operations. I remember being told by a surgeon, to whom I was speaking of these things, that for years all these rules had been observed; but he added, directly we perceive a bad smell, it is corrected. Now, here is the entire difference: we make sure that nothing of the kind shall be detected and corrected; for it is prevented from having any existence.

There are many little things you must see after yourselves, or they are liable to be overlooked. The bed and linen should be fresh and clean. Before an operation, it should be renewed, and, before the patient is placed in the bed, it should have been thoroughly warmed. The bedstead should be supported, if the case be a critical one, upon blocks of India-rubber, so as to obviate all jars from movements in the ward, and by means of a ventilating cradle, if the lower extremity be the part concerned, or otherwise, according to the operation, the free access of air about the dressings should be ensured. See, too, that sufficient pillows are provided; a small one here or there will often give great relief; and never, let me say in passing, neglect the complaints of your patients as to position; it is so easy to satisfy them by some slight shifting of the bed or of the part which is uneasy, and it is vexing to the sick man to be denied. He may, indeed, work himself into a state of much constitutional disturbance. One day, in going round Harley Ward, we found a man who had a severely lacerated wound of the forearm, and his arm was swung with a counter-weight. Although the wound was doing well, he said that the position of the arm was, and for some time had been, uncomfortable, and he had a rapid pulse and a high temperature (pulse, 100; temperature, 104 deg. Fahr.) We took the arm off the splint, and rested it on the bed, and, before we left the ward, his satisfaction showed itself in a quiet pulse and a natural temperature.

There are appliances, too, which you must see after, and which often have to be made especially for each case, if the patient is to go at ease to convalescence. There are now in Sitwell Ward two instances in point. There lies a woman for whom we opened an enlarged bursa beneath the annular ligament of the wrist. As it was important that the parts should be kept at rest after the operation, a splint was contrived for her which allowed the wound to be dressed without any disturbance of the parts, the arm being at the same time swung with a counter-weight; and she was trained to bear the restraint by using the splint for some days prior to the operation. In the same ward is a girl who has been also trained to bear a splint which has been made to ensure extension of two fingers which were contracted upon the palm, and which have been straightened by operation. In this instance, our treatment aims at making the wounds heal in the long axis of the fingers, so as to prevent the recurrence of the deformity, and our machinery is adapted to ensure this result.* On the other hand, however fit an apparatus may be, unless the patient have been accustomed to it, and it has got to its bearings before the operation, he is very likely to resent it as uncomfortable. The man in Darker Ward, from the back of whose neck a keloid growth was removed, suffered in this way. We were anxious that the parts should be kept at rest after the operation, and, to ensure this, a splint was moulded to the

back of the head and to the shoulders; but unfortunately it had not been worn by the patient before the operation, and so, when it was put on, it was irksome, and had to be removed, and the object we had in view was defeated; for the wound was not kept at rest, and, therefore, failed to unite by the first intention.

Occasionally, it must be confessed, our patients suffer from our defective arrangements; and there was one woman (the only case of blood-poisoning we have had during the last three years) who got into trouble in this way. She lay in Sitwell Ward, and was in bad health; indeed, she had a cancerous growth infesting the middle of the right femur. It was thought well to amputate at the hip-joint. As it seemed likely that this feeble woman might suffer from bed-sores, a water mattress was ordered for her. Unfortunately, after the operation, we found that, by displacement of water, the mattress was forced up against the stump, and the practical evil which grew out of this was, that we failed to keep the wound thoroughly drained. Discharge was shut in, and the woman was poisoned, and died. The pains we had taken to guard against one trouble created a difficulty which, perhaps, we ought to have foreseen, and which caused me great regret.

A great deal of forethought and care must be expended upon these details of appliances, and you must be prepared to think out the best way of dealing, by anticipation, with conditions of the future. It is a great point gained to prevent, as you may prevent, some small trouble from arising, and the repose of an injured limb for days, or the redressing of a wound, has always to be provided for at the first arrangement of supports and coverings. You will notice this if you watch the progress of an amputation-wound; for by the studied fit of the first dressings, and by the facilities given by the fall provided by the hinged anterior portion of the swung splint,* it is no exaggeration to say that, from the recovery from the anæsthetic after the operation to complete convalescence, your patient should suffer neither ache nor pain at the hands of the surgeon.

LETTSONIAN LECTURES

ON

THE INFLUENCE OF CLIMATE IN THE TREATMENT OF PULMONARY CONSUMPTION.

Delivered before the Medical Society of London.

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LECTURE III (*concluded*).

WE now come to the *very dry climates*, which include the Cape, Natal, and Egypt. The two former have moist and stormy summers, but their winter climates are dry, and we therefore class them with Egypt.

Now, Egypt is the type of the dry climates, and especially so is the desert, though which the Nile boat-travellers wend their way to the second cataract. The rainfall is very small, and the number of rainy days rarely exceeds fifteen in the year. Mr. Flower, in his excellent papers in the BRITISH MEDICAL JOURNAL of 1874, states that, during that winter, when more rain fell than had been known for years, there were eleven rainy days out of one hundred and fifty, and in some of these but a few drops fell. The mean winter temperature is 58.52 deg. Fahr., and the range of temperature is greater than on the Mediterranean shores; but it is very rare for the freezing points to be reached, even at night. Heavy dew occurs there, and the early mornings and the nights are cool and refreshing. As a general rule, Mr. Flower says, the days are very much like one another, fine, clear, bright, and sunny, and the subject of the weather, so important in our island home, soon loses its interest from being devoid of change.

The main object of a visit to Egypt is not to stop at Cairo, although its climate has been found useful, and in certain cases it is preferable from greater comforts and medical advice, etc., being obtainable, and living arranged on a more economical scale for those whose means are limited. Nor is it to spend time at Ismailia or Suez on the famous canal. Invalids should generally ascend the Nile in a dahabiah; and it is this voyage up eight hundred miles of river, flowing, for the most part, through desert, that is fraught with such benefit to the phthisical. The boats contain fair sized and airy cabins, are well stocked with good

* This patient made a good recovery, with useful movement in the fingers.

* These splints are described in the BRITISH MEDICAL JOURNAL for 1873, vol. ii. They were first suggested by my house-surgeon, Mr. Brewer.