THE WORK OF THE "CLEARING HOSPITALS" DURING THE PAST SIX WEEKS.

BY

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It is nearly three months since I joined our army in France. I spent most of the first fortnight in Rouen, where were two excellent general hospitals, and where I had a very interesting experience.

Two months ago the British army moved from the Aisne to the North of France, and I was then invited to go up with the general head quarters and found myself acting as consulting surgeon to the "clearing" hospitals behind the firing line.

It is already well known that we occupy the line from near Ypres to La Bassée, a distance of some thirty to forty miles, and the northern part of this is hilly and undulating, while south of Bailleul the country is very flat and marshy along the river and canal of the Lys.

This town is some miles from each end of our line, and we have had "clearing" hospitals at the towns at each end, and in three other centres between.

THE FUNCTIONS OF A CLEARING HOSPITAL.

For the sake of those who are not yet familiar with army nomenclature, I will premise that a "clearing" hospital is placed conveniently near to the field ambulances of the different corps, and that the wounded are sent into it as soon as possible after being injured, and after their first field dressing. In actual practice this generally means that the men wounded during the night-fighting are brought in in the morning, and those wounded in the day may either be got in during the afternoon, or else it may be necessary to wait till darkness permits of their being brought in safely.

A "clearing" hospital is essentially a "mobile unit," and must be able to move with the army at the shortest notice. Consequently, it is not equipped like a "general" hospital, for it has no tents or huts, and it has stretchers instead of beds, and no such luxuries as x rays and a pathological outfit. It consists really only of a staff with a sufficient amount of surgical and medical equipment for emergencies, and is in future to be called a "casualty clearing station." But, although these are the normal conditions, we were very fortunate in that we found some excellent buildings in this town and in the neighbouring ones, and we occupied school houses, hospitals, lycées, and colleges, many of which had a few excellent beds and bedding, and two of which had sisters of charity as nurses, and operating theatres. What is very striking is that these small towns have far more commodious buildings than would be found in any similar places in Great Britain.

We arrived at this town one afternoon and were informed that fighting had taken place that day 14 miles away, and that there were 450 casualties to be sent for. There were 50 motor ambulances ready; suitable buildings were found for a clearing hospital staff to occupy, and preparations were at once made to house, feed, and attend surgically on the wounded.

It must be realized that a clearing hospital is supposed to be staffed and equipped for 200 patients, but warfare and necessity know no laws, and sufficient accommodation was at once found in a derelict college and in a jute factory, and all night the staff laboured hard and got through their work splendidly. But this was only the beginning of a month of unprecedented difficulties, all of which have been surmounted in the same spirit of prompt decision and energetic action which characterized this first incident.

As the divisions came up and moved into line other hospitals were started, and very soon the fight known as the "battle of the Lys" or the "battle of Ypres" developed along the whole front. But the pressure of the fighting would be at one part of the line one day, and at another point another time, and it was therefore my duty to go

to the place which was the most busy, and either to stay there or else to go on to some other hospital as might be required.

It is quite impossible really to describe the scene at a clearing hospital when the fighting was at its height, but I will try to give some idea of it. Picture a large open space surrounded by buildings. Into this there drives a motor ambulance. The tail curtains are opened and reveal four "lying-down cases" on stretchers. These latter are swiftly and carefully slid out, and carried into a large receiving room 30 or 40 ft. long. Another ambulance draws up with six or eight men who are "sitting-up" cases, and these are helped out and walk into the receiving room. The clothes of the patients are all thick with mud. Ambulance follows ambulance, for the field ambulances at the front have been filled up during the night, and there has been heavy fighting again at daybreak—a common hour for attacks—and thus it has happened that on many days from 500 to 1,000 or more wounded have arrived at a single clearing hospital in a single twenty-four hours.

And now look inside the receiving room. Here are half a dozen or more surgeons, often some dressers who are medical students, and a score or two of well-trained and very efficient orderlies. Men with simple flesh wounds are sitting on the benches round the room while the surgeons look at their wounds, and perhaps decide that a simple dressing is all that is required; the skin is painted with iodine, the wound is washed with an antiseptic, a dressing is put on by the orderly, and the patient goes off to another room for rest and food.

In another patient the arm bones are fractured, and splints have to be applied before the wound is dressed. In another case there is a bad smash of the thigh or the leg bones, and an anaesthetic is required and given, while the clothes are cut off, the wound washed out with an antiseptic, and splints and dressings applied.

Here is a man in whom it is only too evident that the limb is hopelessly smashed, so the patient is put into the ambulance and sent round to a neighbouring building where a surgeon is in waiting ready to amputate, so the work of dressing the wounded is not interrupted by an amputation. But, in addition to the dressing of wounds, you will see that one surgeon is detailed to inject every man with antitetanic serum, and you will notice that all the men are given hot soup or milk, or perhaps stimulants, while they wait their turns to see the surgeon.

And so on some days for hour after hour, and for most of both day and night, the same scene is enacted with constant variations of detail. But consider for a moment what forethought has been necessary for such a condition to be successfully dealt with. Picture what stores of dressings and bandages are required to dress many hundred wounded men day after day at each of several hospitals, and remember that it has all to come from England and has all to be got to railhead in quantities greater than have ever been required in any previous war. Think of all the stretchers and blankets and a score of other requisites without which the whole thing would be a failure; then realize that we have never once run out of chloroform, dressings, or any single thing, with the sole exception that for some days, after using 30,000 doses, we had not quite enough tetanus antitoxin.

But you must next appreciate that the hospital is only a "clearing hospital" or "station," and in its turn it must be promptly cleared of all cases that can be moved, so as to be ready for next day's wounded. Therefore, ambulance trains must be ready daily to remove their hundreds to Boulogne or Rouen, or to hospital ships waiting to go to England. You might, at first thought, consider that there should be no difficulty about these trains, but there is a great one. The first duty of every general is to defeat the enemy, and trains for troops, and guns, and horses, and stores are the very first consideration, and Red Cross trains must wait their turn.

Remember that we are in the country of our ally, and the trains on the railways are all French, and under French management. We must take what they can afford to give us, and it is not in our power to provide facilities, or engines, or engine-drivers, etc. So it comes about that the train question is a most difficult one; yet it is another of those difficulties that has been completely overcome by the energy and foresight of those in charge.

THE WOUNDS.

And now a few words about the wounds themselves. In the first place, a certain number of the men are obviously dying, and this is specially true of wounds of the brain. In such cases there is little to do, and most of the patients are happily unconscious. But all patients with cranial wounds who are not too ill are operated upon subsequently. Wounds of the face are sometimes horrible. Many of these patients die, partly from shock and haemorrhage and partly from loss of blood and difficulty of swallowing.

Thoracic and Abdominal.

Chest wounds are tolerably common, for, now that the range is shorter and often very short indeed, many more men are wounded by rifle bullets.

There is always in lung injuries some dyspnoea at first, and the difficulty of breathing may be very great. Most men are relieved if given morphine and allowed to rest in a half-sitting position, and in twenty-four hours or less they get more comfortable. As a whole they do well, in spite of haemothorax, and wounds near the apex do better than those in the middle of the chest. Many of the latter are fatal from injury to a large vessel or to the heart. In all of these chest wounds operations are to be avoided.

The abdomen is to a great extent protected in the trenches, and abdominal wounds are not as relatively common as they were in South Africa. They have, however, been more common in the recent fighting, and I have seen, I suppose, between fifty and sixty. The conclusions of recent wars are confirmed—namely, that they should not as a rule be operated upon. The minority of those I have seen have recovered, although some of them have had such rigidity and vomiting as to make one feel sure of some peritonitis. Wounds through the upper part of the abdomen do better than those below the umbilicus, and bullets through the liver do not generally do much harm, although I have seen severe vomiting follow haemorrhage into the peritoneum, and have seen fatalities from bleeding.

We have established a general custom of keeping all patients with thoracic and abdominal wounds in the clearing hospitals for several days before allowing them to go to Boulogne, and I feel sure the quieter they are kept the better they do. I like to see them kept in the clearing hospital for at least five or six days if possible.

Extremities.

Wounds of the extremities vary immensely, of course, and while in some cases there are only small flesh wounds, in others, where the limb is not absolutely smashed by a shell fragment, the bones are powdered and the muscles extruded through huge rents in the skin. Many of the worst of them are due to shells, but by no means all.

The fighting has been practically hand to hand in and around the trenches, and huge lacerated wounds of exit, with or without fractures, are quite common and very numerous when bullets have been fired at such close quarters. Many such wounds are thought to be due to "explosive bullets" or to shells, but the explosive effect of bullets fired at very short ranges are unfortunately only too common in reality and are well known to all who have any experience of gunshot wounds.

Blood Vessels.

Injuries of blood vessels have in many cases caused gangrene without causing serious bleeding, and have often necessitated amputations. My very strong impression is that this is a much more common event with the present German pointed bullet than with the old blunt Mauser bullet of the South African war, and I am sure that the new bullet inflicts much more injury on the soft tissues than the older one. On the other hand, aneurysms and arterio-venous aneurysms, which were of frequent occurrence in South Africa, are relatively rare. I can only recall having seen six of all kinds amongst many thousand wounded. They may, perhaps, develop later.

Wound Infections.

Tetanus is probably not so common as on the Aisne, partly, perhaps, because we are on different ground and also because of the preventive inoculation. It is quite a mistake to suppose that it does not occur in bullet wounds but only complicates shell injuries. I have seen it in both,

and I have seen it in slight bullet wounds as well as in serious ones. It has been treated by carbolic acid injections, by magnesium sulphate, by antitoxin, and by chloral and potassium bromide; but early acute cases almost always die whatever treatment is adopted, and a good many more chronic cases recover.

True "hospital gangrene," or "sloughing phagedaena," I have neither seen nor heard of in any hospital in France. On the other hand, the "spreading gas gangrene" or "malignant oedema" has attacked, as a rough guess, perhaps a half per cent. of the recent wounds of all the armies. Mr. Sidney Rowland has proved that it is due to one or other of a group of anaerobic spore-bearing organisms, and, as he and I have already written a report on it, I will not further describe it. It is, however, very noticeable that, in all the cases we have seen, it complicated wounds of the extremities only. The wounds of the head and neck, of the thorax and the abdomen, were all free from it. I take this to mean that it occurs especially in those injuries of limbs which are followed by much interference with the circulation due to swelling and stasis, and by oedema and blood extravasation, all of which also tend to produce sepsis, and which are all rare in wounds of the trunk and head, where the circulation is not materially affected. Consequently I believe that gangrene is to be prevented to some extent, at least, by avoiding all constricting bandages, which lead to congestion and oedema, and by opening up and washing with antiseptics wounds which seem to require it, so as to relieve tension and permit the removal of dirt, bone debris, and clothing, and all such wounds require the most free draining, and of course no such wounds are to be sutured.

There is also no doubt that if dressings are allowed to stay on too long, so that they dry and cork up the discharge, gangrene is specially likely to occur. Frequent dressings are therefore most necessary, and this is specially the case in shell wounds, where the contusions and lacerations of the tissues are far more extensive than can be seen, and are in no way limited to the obviously wounded area. The muscles and fasciae far away from the wound may subsequently slough from the mere traumatism, and in such dead tissues the spreading gangrene is specially likely to start.

True pyaemia I have never seen, and I have not heard of its occurrence in the base hospitals either, and wounds as a whole, though they have usually suppurated, have done well, when one considers the very wide-reaching and destructive effects of modern bullets and shells, the mud-covered clothes of the soldiers, and the difficulty or impossibility of helping the wounded at once when under heavy fire. The soil of a richly manured agricultural country, which is also very thickly populated, is a very different matter from the sun-dried South African veldt. The one is full of septic organisms, the other is practically sterile. When many hours, or even days, have elapsed, it is evident that in such cases as these antiseptic treatment comes all too late to prevent supuration.

As regards wounds by bayonets, I can only say I have seen but three, and I have seen none caused by sword or lance. I am also not aware that I have seen a wound caused by a revolver bullet.

THE WOUNDED.

I cannot close these notes of the clearing stations without a word as to the demeanour of the patients. Nothing could be more admirable than the *sang-froid* and cheeriness of men and officers alike. Many of them were cold, wet, and hungry. All of them had more or less pain. Some of them had suffered exceedingly during their transit from the front, some of them were faint from loss of blood. A few were obviously dying. Yet no one really grumbled or made querulous complaints. At the most they asked for something to drink or for some one to move them to a more comfortable position. Many of them were so tired that, in spite of pain, they went to sleep on their stretchers, but, unless they were too tired, they were cheerful and grateful to those who helped them. Their spirit was not broken by their misfortune, and they were still as steady and self-reliant as when they endured the shell fire in the trench or advanced to a counter attack. "The men are splendid," said Sir Redvers Buller fifteen years ago, and this is still true to-day.