

SOME THOUGHTS ON THE WAR.

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AFTER I had written the paper which appeared in last week's issue of the *Journal*, I received a request "asking for more" and suggesting that as many nurses were now on active service, a few notes on the sort of emergencies they might have to deal with would be acceptable at the present time.

In the attempt to comply with this request I am met at once with the difficulty that it is impossible for one who has to stay at home to know the exact conditions under which the treatment of the sick and wounded will have to take place. Obviously they may differ with the time and place, and the point about all emergency work is that it consists in doing the best you can under the circumstances, which is not always the ideal. The man, for instance, who opens the windpipe of a suffocating child with a pocket knife and a borrowed hairpin—both, it may be, very septic—is of more use than he who suffers the patient to die while he is sending for antiseptic lotions!

So I can say very little, I am afraid, that will fit in with every condition that a nurse will have to face on active service. I can only indicate what one should aim at, and describe a few general principles rather than attempt a practical guide to details.

Let us take the wounded first. What are the dangers? Not so much being hit by a bullet, for the wound made by modern rifle fire, provided that it is not immediately fatal from extensive damage to important structures, is not in itself so serious as we should perhaps expect. There were many instances in the South African War of bullets passing clean through the body and doing but little damage. With shell fire the conditions are different, because a fragment of iron is apt to cause a jagged wound, which is much more serious. Still, it is the *accompaniments* of war, or, in other words, the conditions under which wounds are received, that give trouble, and which lead to complications that the nurse may have to deal with on her own responsibility. The most important of these latter are hæmorrhage, shock, and sepsis. With sepsis I attempted to deal in the last paper, so we will now consider the two former.

Hæmorrhage may be immediate or remote, and the blood may come either from a severed artery (or vein of fair size) or—in the case of a lacerated wound—from capillaries only. In the former event the patient may die almost immediately from extensive loss of blood, in which case neither the nurse nor anybody else is likely to be of much service, as they cannot arrive in time. Nor need we trouble much about capillary hæmorrhage, as it will probably have yielded to the pressure of the dressing which the wounded man will have applied, or got one of his comrades to apply for him, to the wound. If not, local pressure suffices.

But we must not forget that it is possible for a modern bullet to partially or even completely divide a large vessel, and for the blood, which at first

flows quickly, to coagulate and block up the narrow track of the missile, so that the bleeding ceases for the time. In such an event, however, there is a great risk of the bleeding bursting out afresh when the wounded man recovers from the fainting caused by the initial loss of blood, and tries to move. And a case like this is quite likely to come under the care of a nurse.

Obviously the treatment of severe hæmorrhage consists in bandaging the wound firmly, and, if this does not suffice, tying a bandage, handkerchief, or anything of the kind which may be available, round the part between the wound and the heart in such a position as to compress the artery above the wound. In the case of the upper limb, such an improvised tourniquet should be applied above the elbow, and in the lower limb round the thigh; but in any case the wound should itself be bandaged firmly.

In warfare the danger of secondary or remote hæmorrhage is far greater than in time of peace, as the risk of sepsis is so much more real; the process of sloughing so often opens up a main vessel later on, and unless the nurse has her wits about her, and knows where the main arteries of the body can be compressed, either with a bandage or with the finger (until the surgeon arrives to tie the artery), a patient may quite easily bleed to death in a very few minutes. I need not enlarge on this, however, for it forms a part of the training of every qualified nurse.

The condition which we know as *shock* is more likely to be present and to give trouble in the case of wounds inflicted in war than after injuries and operations as we see them at home. The exact pathology of shock is still unsettled, and it will serve no good purpose for us to discuss it now, but what happens is that, quite suddenly, all the large veins of the body, especially those in the abdomen, become dilated and full of blood, so that the other parts—brain, circulatory organs, and so on—are temporarily deprived of their blood supply. The patient becomes torpid, his muscles relax, and his face assumes a leaden grey colour; the respirations are so shallow that breathing may appear to have ceased, and the pulse tension is very low. As a rule, the pulse rate is much quickened, but it may be abnormally slow, this condition being generally due to such an extreme weakness of the heart that not all its beats are able to reach the artery in the wrist.

Among the causes of shock are fright, previous exposure to cold and wet, extensive injury to the skin, such as may follow a shell wound, injury to a large nerve trunk (as from a bullet wound), hæmorrhage, injury to the peritoneum, as when the intestine is severed, or injury to the spinal cord. On the battlefield many of these conditions may obviously be combined.

Shock may prove fatal in a few moments from cutting off of the blood supply to the higher centres, such as those controlling respiration and circulation, but under favourable circumstances it may pass off as rapidly as it came. Unfortunately the essentials for the treatment of shock are often absent in emergency, and there can be no doubt that many of the wounded will die rather from shock than from the severity of their injuries.

The first factor in the treatment of shock is inversion of the patient, so that the blood may run towards the nerve centres in the head, and in emer-

gency this is not only the most important measure, but also the easiest to carry out; the head should be lowered and the legs raised, and the patient should be supported in this position by packing any available substances under him.

Next comes warmth. In hospital a warm drink (unless this should be contra-indicated by the presence of internal hemorrhage) should be given. I do not know what facilities for this will be possible on the field, but a draught of hot milk or coffee is about the best thing that can be given to the average wounded man. Incidentally, thirst is almost always present with any wound, and it may be so extreme as to be agonizing.

Then we have narcotics, such as morphia, of which a hypodermic injection—usually half a grain to a robust man—may be given. This has the advantage of combating pain as well as shock. Instructions on this point as to the routine to be observed will doubtless be given to nurses on active service at the appropriate time and place.

Another most valuable remedy is the injection of normal saline solution, but this is not usually available in emergency. When the wounded have been brought into the temporary or permanent hospital, saline injections will be available, and will probably be freely used.

Two things should not be given—strychnine and alcohol. Both of these aggravate shock by acting on centres which are already exhausted from overstimulation. Before this point was understood, many lives were lost from the routine administration of strychnine, especially to all and sundry patients who were standing operations or anæsthetics badly.

Latterly the hypodermic administration of pituitary extract has proved to be a most valuable remedy for shock, but in emergency this might not always be available.

In war we must not forget that we may have to deal with medical as well as surgical catastrophes. Many of these come from insanitary conditions which attend troops in the field, such as drinking polluted water, and from infections, such as enteric fever and cholera, both of which are apt to spread with amazing rapidity once they have obtained a foothold, and certainly every nurse who is going on active service should read up these two diseases. Diarrhoea from bad food or water, tetanus from wound infections, and perhaps outbreak of infectious diseases, such as diphtheria, or even scarlet fever and measles, may also occur.

Speaking generally, the greatest enemy will probably be sepsis in one form or another; we dealt with this in the last article, but I would emphasize again the point that, after all, the most important factor in the war against infection is the state of the patient's own leucocytes. Measures of disinfection, whether of wounds that have become contaminated or of surroundings, clothing, etc., in order to prevent the spread of zymotic disease, are of little use in comparison with the maintaining of the resistance of the person. In this the nurse bears a most important part: her triumph comes in getting food into a prostrate or fastidious patient, in husbanding his strength by the numerous niceties of her art, and thus helping his leucocytes to produce the antitoxins with which, after all, no germicide can hope to compete in efficacy.