

## OUR PRIZE COMPETITION.

### WHAT DO YOU KNOW OF THE CAUSES OF TETANUS IN WAR, OF PRECAUTIONS FOR ITS PREVENTION, AND OF ITS TREATMENT AND NURSING?

We have pleasure in awarding the prize this week to Miss F. E. A. Oke, the Royal Infirmary, Leicester.

#### PRIZE PAPER.

*Causes.*—Tetanus is an infective disease of the wound, due to the bacillus tetani, found chiefly in earth mould and horse manure. In some regions of France the soil is very rich and highly cultivated; this produces more bacilli.

Gunshot wounds are especially susceptible; often being in the hands, legs, and feet, they are exposed, and can easily come in contact with soil, mud, &c., before having a dressing applied; wounds may have pieces of soiled clothing carried into them by a bullet or shrapnel.

Tetanus may arise from frostbitten feet. The bacilli grow more rapidly when pyogenic organisms are present to use up the oxygen; sepsis therefore increases the danger of infection.

Overcrowding in field hospitals is another cause, as due antiseptic precautions cannot be taken or the wound dressed often enough.

*Precautions.*—General cleanliness most important; personal cleanliness as far as conditions will allow. The men's clothing should be changed as often as possible; this would lessen the danger when wounded.

The wound should be carefully cleansed with antiseptics as soon as possible, and if any soil is embedded in the tissues that part should be excised.

Antitetanic serum is given in immunizing doses, usually 500 to 750 units, for the first dose, given as soon as possible after wound occurs; other three doses of 500 units are given, leaving six days between each injection.

Bacteriology has shown that the incubation period is the most favourable time for giving antitoxin, and if the disease does develop after its injection, the attack is in a much milder form.

An aperient should be given regularly, and the general health kept as good as possible, to keep up a strong resistance.

If any suspected symptoms arise, it often prevents developments to give from 8,000 to 10,000 units of serum.

*Treatment and Nursing.*—When once the appearance of typical symptoms has placed the

diagnosis beyond doubt, the patient should be moved to a quiet room, or surrounded by screens, and be protected as far as possible from sudden noises or shocks to the nervous system.

A dose of serum—usually 8,000 to 10,000 units—is given, and repeated as necessary. The injection may be intramuscular, intravenous, subcutaneous, or into the sheath of the spinal cord; this is the most effective, as the central nervous system is the centre of the disease.

Chloratone gr. xx may be given to relieve the spasms and encourage sleep; also potassium bromide gr. xv when no more chloratone can be given.

*Wounds.*—Treated on ordinary antiseptic principles, free incisions should be made for drainage, antiseptic lotions and dressings applied. When once the symptoms have appeared, the local treatment of the wound seems to have little influence on the course of the disease; but in some cases 1 in 20 carbolic solution has been injected into the tissue surrounding the wound, with good results.

*Diet.*—Milk and fluids generally will be found most suitable. In mild cases the patient may be fed through the mouth, a tooth, if necessary, being extracted. When the spasms are severe, nasal or rectal feeding will be called for, and in the worst types of cases the disturbance created by attempts to pass the nasal tube is so great that the operation must be performed under chloroform anaesthesia. In all instances the greatest care must be exercised in the matter of feeding, since the spasm of the constrictor muscles greatly interferes with swallowing, and the patient often shows a tendency to choke if the food is given too quickly.

Care should be taken in giving treatment not to disturb the patient more often than necessary, as any sound or disturbance may bring on a painful convulsion.

Owing to the spasm of the muscles of the perineum, special attention should be given to the amount of urine passed; also satisfactory action of the bowels, giving plenty of aperients.

#### HONOURABLE MENTION.

The following competitors receive honourable mention:—Miss Frances Waugh, Miss Gladys Tatham, Miss Alice M. Burns, Miss W. M. Appleton, Miss R. Yeomans, Miss P. Thompson, Miss Amy Phipps.

#### QUESTION FOR NEXT WEEK.

What are the principal results of injuries to the spine? In what classes of cases are operations usually performed? How would you nurse such a case after operation?

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