Health Notes for the Farm

Contributed by the Department of Health

Prevention and Treatment of Tetanus or Lockjaw

TETANUS, or lockjaw as it is commonly known, is a disease characterised by tonic spasms of the muscle with marked exacerbations. The spasms usually begin in the muscles of the jaw and neck, and in severe cases spread to the voluntary muscles of the body and the extremities. Occasionally, however, the first complaint is of stiffness in the limb in which infection has occurred.

Cause

Tetanus is due to the action of an organism first described in 1884 and named bacillus tetani, derived from the Greek word "tetanos," which means muscular spasm. The name thus indicates the characteristic symptom of the disease. This bacillus is widely diffused in nature; it occurs in earth, in putrifying fluids and manure, and is the normal inhabitant of the intestine of many mammals. The soil in all regions inhabited by man and domestic animals is more or less contaminated by tetanus, and is the immediate cause of most cases of the disease in man.

Distribution

Tetanus spores are not equally numerous in all localities. The infection is more prevalent in warm than in cold countries. Thirty-four cases in New Zealand have been reported to the Department during the last three years.

The soil of certain localities through long cultivation tends to become saturated with the spores of tetanus. Thus, the infection is not uncommon in these places, especially among those whose work brings them in contact with the soil. Tetanus may be a sequence of wounds received during motor-car accidents if anti-tetanic serum is not given as a preventive.

Nature of Wounds

Tetanus may be regarded almost solely as a wound complication. Punctured, lacerated, or contused wounds are much more susceptible to tetanus than clear-cut or open wounds. The size of the wounds is of much less consequence than their character and content. Fatal cases of this disease may develop from trivial wounds, such as a pin scratch, small splinters, insect bites, etc. It may even occur without recognisable wounds. This suggests the necessity of making anti-septic all wounds contaminated by the soil or by suspect foreign bodies immediately or as soon as possible after infection of the wound.

THE WISE(?) MAN

He spent his health to get his wealth,
And then, with might and main,
He turned around and spent his wealth
To get his health again.

Incubation Period

The incubation period or period of time elapsing between the entrance of the organisms and the appearance of symptoms depends on various causes. If the dose of organisms is large and the conditions in the wound favourable to their growth and production of toxins, symptoms may appear in two days. Where the organisms are few and the conditions of growth unfavourable, the appearance of the definite symptoms may be delayed for a month or more.

In most cases definite symptoms begin about the tenth day after the entrance of the organisms to the body. The person infected complains at first of slight stiffness in the neck, or a feeling of tightness in the jaws, or difficulty in mastication. Occasionally, chilly feelings or actual rigors may precede these symptoms. These are some of the early signs.

Prevention

The value of anti-toxin in the prevention of tetanus has been firmly established. Its value lies in its proper and adequate use and in administration as soon as possible after the wound has been received. The experiences of the Great War add confirmation to the protective power of this specific and sovereign remedy. Of 1,242,000 wounded sent to England, 1458 developed tetanus—a little more than one per 1000. In September, 1914 (the second month of the war), the rate was nine per 1000; in October seven, and in December one. By November, 1918, the rate was only 0.7 per 1000. This remarkable improvement was due to giving anti-toxin serum immediately after the wound had been received. Furthermore, in the cases that did develop, the period of incubation was prolonged and the disease less severe.

No truer statement could be made than that in lockjaw an ounce of prevention is worth many pounds of cure, for once the disease develops in its acute form the outlook is grave.

Thorough surgical treatment of a wound as soon as possible is an important measure in the prevention of tetanus. Wounds, however insignificant, should be thoroughly cleansed. Promptness in cleansing the wound surgically is almost as important as thoroughness. Delay in seeking skilled medical assistance is dangerous. A medical officer of Guy's Hospital, London, states that "in Great Britain, owing to the use of prophylactic anti-toxin after all serious injuries, the lesions which often cause tetanus in civil practice are slight and often superficial wounds for which no medical aid has been asked or which have appeared too slight to require anti-toxin, e.g., mild whitlows in agricultural labourers and abrasions which have not been properly cleaned and