Toxic Shock Syndrome Encyclopedia Article

Toxic Shock Syndrome

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Toxic Shock Syndrome

Toxic shock syndrome is an illness caused by the bacterium *Staphylococcus aureus*. The syndrome was first recognized in the 1970s when women who were wearing a "superabsorbant" tampon for their menstrual flow developed the illness. The majority of cases occur with this population. Less frequently, toxic shock syndrome can occur in females who do not use tampons, as well as in males.

The symptoms of toxic shock syndrome are caused by a toxin that is produced by *Staphylococcus aureus*. The exact nature of the association of the **bacterial growth** in superabsorbant tampons and the production of the toxin remains unclear. Whatever the exact cause, the cell-density behavior of other **bacteria** lends support to the suggestion that toxin production is triggered by the accumulation of large numbers of the bacteria. In the syndrome occurring in males or women who do not use tampons, there is usually a staphylococcal infection present in the body.

The symptoms of toxic shock syndrome include a sudden high fever, nausea with vomiting, diarrhea, headache, aches all over the body, dizziness and disorientation, a sunburn-like rash on the palms of the hands and the soles of the feet, and a decrease in blood pressure. The latter can send a victim into shock and can result in death. Those who recover may have permanent kidney and liver damage.

These symptoms are produced by the particular toxin that is released by the bacteria. The toxin can enter the bloodstream and move throughout the body. The toxin has been called a "superantigen" because of its potent stimulation of cells of the **immune system**. The immune cells release a compound called cytokine. Normally, only a small proportion of the immune cells are releasing cytokine. But the massive cytokine release that occurs in response to the staphylococcal toxin produces the myriad of physiological changes in the body.

Treatment of toxic shock syndrome depends on the prompt recognition of the symptoms and their potential severity. Immediate administration of **antibiotics** is essential.

The number of cases of toxic shock syndrome has been reduced since the suspect superabsorbant tampons were withdrawn from the marketplace.