Vaccinia, Disease or Adverse Event

Agent: Vaccinia virus, which is used in the smallpox vaccine. The virus also occurs in some bovine (cattle) populations, primarily in Brazil.

Mode of Transmission: Through injection with the smallpox vaccine, or through direct contact with contaminated materials or the vaccination site before it has healed. Outbreaks among dairy cattle in Brazil have led to transmission of the virus to their human handlers, primarily farmers and ranchers.

Signs/Symptoms: Include rash, fever and head and body aches. Some individuals, especially those with certain skin conditions or weakened immune systems, may experience more serious effects, such as a toxic or allergic reaction at the vaccination site or spread of the virus to other parts of the body.

Prevention: When smallpox is not circulating, and to prevent serious reaction to the vaccine, administration of the smallpox vaccine should be generally limited to laboratory workers who handle smallpox and similar viruses and certain healthcare workers. The vaccine is currently available only to members of emergency response teams and some military personnel.

Other Important Information: The U.S. government has enough smallpox vaccine to vaccinate every person in the country in the event of a smallpox emergency. Vaccinia became a reportable condition in Virginia in 2003. It is not a nationally notifiable condition and U.S. totals are not available.

Smallpox vaccination is generally limited to a small population. Therefore, occurrences of vaccinia due to inadvertent transmission of the vaccine virus or occurrences of adverse events in vaccine recipients are very rare. No cases of vaccinia were reported in 2014. The five-year average of 0.2 cases per year is based upon one case of a vaccinia adverse event reported in 2013. The adverse event occurred in a vaccinated member of the military. The first and only other report of vaccinia infection in Virginia was received in 2008 and occurred in a laboratory worker who handled vaccinia-infected mice.