

BRUCELLOSIS: Notes about the Disease

Brucellosis is a bacterial disease that has been known by several different names, one being “undulant fever.” The infection may begin insidiously and, if untreated, last for months or years in an undulating fashion of quiescent periods interspersed with relapses of a flu-like illness. Many cases—particularly the milder ones—go undiagnosed and unreported.

The four different species of the *Brucella* genus that can affect humans find their reservoirs in either herbivores (*B. abortus*, *B. melitensis*, and *B. suis*) or canines (*B. canis*). Humans can become infected when they contact animal tissues or body fluids, or ingest unpasteurized milk. In North Carolina and other states, considerable effort has been expended in vaccination programs and testing and culling out infected cattle and other livestock. NC was declared “brucellosis-free” for cattle in 1984 and for swine in 1990.¹ However, in 1991-92, 30 of 156 workers in the kill division of a Sampson County pork processing plant met an outbreak case definition for brucellosis.² Sixteen of the 30 affected workers had not previously been diagnosed with brucellosis; four of these workers denied a history of symptoms. Exposure to *B. suis* most likely occurred when workers on the kill floor were exposed to infected swine through breaks in their skin, inhalation, and/or conjunctival contact.

Thus, although the incidence of human brucellosis cases has declined steadily as the livestock disease has approached control, it remains an occasional occupational disease among those who process hogs imported from possible infected areas. Also, since brucellosis remains a significant endemic disease south of the US border, we will likely continue to see acute or relapsed cases of brucellosis in immigrants from Latin America. Canine brucellosis does occur in NC, and dog owners should be made aware of the danger of handling dead fetuses or discharges from aborting dogs.³

Finally, brucellosis organisms are a potential bioterrorism weapon. It was the first disease studied by the US when it initiated a biological weapons program during World War II, and it could be disseminated by aerosolization or contamination of food or water.⁴

1. “Animal Health Programs Section,” *North Carolina Department of Agriculture and Consumer Services*, www.ncagr.com/vet/rptdisea.htm.
2. Centers for Disease Control and Prevention. [Brucellosis Outbreak at a Pork Processing Plant—North Carolina, 1992]. *MMWR* 1994;43(07):[113-6], www.cdc.gov/mmwr/preview/mmwrhtml/00024911.htm.
3. S. Rushton, “Canine Brucellosis,” *The NCVDLS Report*, Summer 2005, www.ncvdl.com/newsletters/2005Summer.pdf.
4. “Factsheets on Chemical and Biological Warfare Agents: Brucellosis,” *CBWInfo*, www.cbwinfo.com/Biological/Pathogens/BM.shtml.