



2013-08-16-065 Campylobacteriosis - USA (10): (PA) unpasteurized milk
To: (03) Food-borne, water-borne and air-borne diseases;

CAMPYLOBACTERIOSIS - USA (10): (PENNSYLVANIA) UNPASTEURIZED MILK

A ProMED-mail post

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Date: Mon 5 Aug 2013

Source: Pittsburgh (PA) Tribune-Review [edited]

<<http://triblive.com/news/adminpage/4482932-74/milk-raw-county#ixzz2bBd3DBzp>>

A south-central Pennsylvania dairy has again been ordered by the state Departments of Agriculture and Health to stop sales of raw milk because of a 3rd outbreak of campylobacteriosis infections.

There have been 2 confirmed cases of *Campylobacter* infection in people who consumed raw milk from The Family Cow in Chambersburg, Franklin County, the Department of Agriculture announced after positive test results for the bacteria were confirmed on Mon 5 Aug 2013. The farm sells raw milk, which has not been pasteurized, to consumers at the farm store as well as retail stores in various locations, including Pittsburgh.

The department ordered The Family Cow to stop selling raw milk earlier in 2013 because 5 people, including 1 from Allegheny County, became ill between 30 Apr 2013 and 10 May 2013. It was given the go-ahead to resume sales in June 2013. Raw milk produced by the dairy sickened 38 people, including one from Allegheny County, in January 2012.

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[As stated in the posting, this is the 3rd episode of human campylobacteriosis linked to the same Pennsylvania dairy farm in about 18 months. It would be quite interesting to know if isolates from all 3 clusters are genetically identical. If so, this would speak to the inherent difficulties in screening for enteric pathogens in unpasteurized milk.

Classical zoonotic organisms such as *Brucella abortus*, *Brucella melitensis*, *Mycobacterium bovis*, *Salmonella* species, *Listeria monocytogenes*, *Campylobacter* species, *Yersinia* species, *Coxiella burnetii*, and *E. coli* O157:H7 are associated with raw milk ingestion.

Non-zoonotic organisms such as *Streptococcus pyogenes*, *Salmonella* Typhi, *Corynebacterium diphtheriae*, *Shigella* species, *Salmonella* Paratyphi A, *Salmonella* Paratyphi B, enterotoxins from *Staphylococcus aureus*, and hepatitis A virus have also been associated with raw milk ingestion.

Other diseases that can be related to unpasteurized milk are highlighted in these paragraphs extracted from Leedom JM: Milk and infectious diseases in humans. Clin Infect Dis 2006; 43(5): 610-15 (<<http://www.journals.uchicago.edu/doi/full/10.1086/507035>>), with the citations renumbered to be consecutive starting from 1:

Rabies



CENTAUR GLOBAL NETWORK

In 1996 and 1998, there were 2 episodes involving rabid cows that occurred in Massachusetts (1). Milk from rabid cows can contain rabies virus, and transmission via unpasteurized milk is theoretically possible. Temperatures reached during pasteurization kill the virus.

80 persons consumed unpasteurized milk that was collected from the 2 cows, and 9 more had contact with saliva from the cows. All 89 persons received post-exposure rabies prophylaxis, and no human cases of rabies eventuated. A similar report in Oklahoma of possible rabies exposure associated with the consumption of raw milk or cream from a rabid cow was circulated in 2006 (2).

Tickborne encephalitis

Tickborne encephalitis, a zoonotic arbovirus infection usually transmitted to humans by the bite of an *Ixodes persulcatus* or *Ixodes ricinus* tick, is endemic to Central Europe, Eastern Europe, and Russia (3). However, the virus can be found in the milk of cows and goats with tickborne encephalitis and was reported to be transmissible to humans by the consumption of unpasteurized milk (4). A case-control study failed to confirm oral transmission (5).

Brainerd diarrhea

A diarrhea syndrome (later named Brainerd diarrhea) occurred among 122 residents of Brainerd, Minnesota during the period December 1983-July 1984 (6). It was characterized by acute onset, marked urgency, lack of systemic symptoms, failure to respond to conventional antimicrobial agents, and a long median duration of illness (median duration, 16.5 months). The syndrome was linked to consumption of raw milk from a single dairy (6). No etiologic agent was ever isolated. The outbreak of Brainerd diarrhea stopped when all of the dairy's output was diverted and pasteurized (6, MT Osterholm, personal communication).

Subsequent outbreaks in Illinois and Texas were not directly associated with milk, although cattle had been in the vicinity of an Illinois well that had its water implicated as a vehicle of transmission (7). Another outbreak of Brainerd-like diarrhea, although not associated with raw milk, affected 58 (15 per cent) of 394 passengers aboard a cruise ship visiting the Galapagos Islands in Ecuador (8).

References

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 2. Rabies, bovine, human exposure - USA (OK). 2006 [ProMED-mail archive no. 20060101.0005. Accessed 26 Jul 2006].
 3. Dumpis U, Crook D, Oksi J: Tick-borne encephalitis. *Clin Infect Dis* 1999; 28(4): 882-90 [available at <<http://cid.oxfordjournals.org/content/28/4/882.full.pdf+html>>].
 4. Matuszczyk I, Tarnowska H, Zabica J, Gut W: The outbreak of an epidemic of tick-borne encephalitis in Kielec province induced by milk ingestion [in Polish]. *Przegl Epidemiol* 1997; 51(4): 381-8 [abstract available at <<http://www.ncbi.nlm.nih.gov/pubmed/9562785>>].
 5. Rieger MA, Nubling M, Kaiser R, et al: Tick-borne encephalitis transmitted by raw milk -- what is the significance of this route of infection? *Studies in the epidemic region of Southwest Germany. Gesundheitswesen* 1998; 60(6): 348-56 [abstract available at <<http://www.ncbi.nlm.nih.gov/pubmed/9697358>>].
 6. Osterholm MT, MacDonald KL, White KE, et al: An outbreak of a newly recognized chronic diarrhea syndrome associated with raw milk production. *JAMA* 1986; 256(4): 484-90 [abstract available at <<http://jama.ama-assn.org/content/256/4/484.abstract>>].
 7. Mintz ED, Parsonnet J, Osterholm MT: Chronic idiopathic diarrhea [letter]. *N Engl J Med* 1993; 328(23): 1713-4 [available at <<http://www.nejm.org/doi/full/10.1056/NEJM199306103282314>>].
 8. Mintz ED, Weber JT, Guris D, et al: An outbreak of Brainerd diarrhea among travelers to the Galapagos Islands. *J Infect Dis* 1998; 177: 1041-5 [available at <<http://jid.oxfordjournals.org/content/177/4/1041.full.pdf+html>>].
- Mod.LL



CENTAUR GLOBAL NETWORK

A HealthMap/ProMED-mail map can be accessed at:
<<http://healthmap.org/r/7UFu>>.]

[see also:

- Campylobacteriosis, E. coli EHEC - New Zealand: raw milk
20130802.1860208
- Campylobacteriosis - USA (09): (MN) unpasteurized milk, alert
20130627.1794212
- Campylobacteriosis - USA (07): (PA) raw milk 20130531.1746758 Campylobacteriosis - USA (05):
(AK) unpasteurized milk
20130507.1697642
- Campylobacteriosis - USA (04): unpasteurized milk, 2012
20130505.1692648
- Salmonellosis, st Typhimurium - USA (04): (MN) unpasteurized cheese
20130425.1671514
- Campylobacteriosis - USA (03): (AK) unpasteurized milk
20130305.1572798
- Campylobacteriosis - USA: (AK) unpasteurized milk 20130218.1547473
2012

- Campylobacteriosis - USA (13): (CA) raw dairy products
20120511.1129936
- E. coli EHEC - USA (12): (OR) O157, raw milk, addtl. pathogens
20120503.1119409
- E. coli EHEC - USA (09): (OR) O157, unpasteurized milk
20120414.1101363
- E. coli EHEC - USA (06): (MO) O157, unpasteurized dairy susp.
20120410.1095960
- Campylobacteriosis - USA (12): (CA) unpasteurized cream
20120324.1079609
- Campylobacteriosis - USA (04): (PA, MD, NJ) unpasteurized milk 20120202.1031280
- Campylobacteriosis - USA (03): (PA, MD) unpasteurized milk 20120201.1028720 Campylobacteriosis
- USA (02): (PA, MD) unpasteurized milk
20120131.1027643
- Campylobacteriosis - USA: (PA, MD) Ex PA, unpasteurized milk 20120128.1024979]
