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Binational Border Health Information System ~ *Sistema Binacional Fronterizo de Información en Salud*

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**Note / Nota:**

### **An Innocent Carrier of Tuberculosis**

*by Colin Crawford*

[Note: The following article is reprinted from Border Reflections, Issue 28, January/February 2001 which is produced by the Border Health Initiative. For more information about the publication or organization contact David Maung, the Border Reflections editor, at [maung@pcborderregion.com](mailto:maung@pcborderregion.com).]

The research of several San Diego doctors has identified an unusual yet easily correctable source of tuberculosis infection for children along the Mexican-U.S. border. Dr. Wayne Dankner, formerly at the Department of Pediatrics at the University of California, San Diego and his colleagues, identified nearly 600 cases of tuberculosis *Mycobacterium bovis* (M bovis) between 1980 and 1997. Although Dankner and his associates stopped data collection several years ago, he believes there is no reason to think that the problem has stopped.

Consequently, as a U.S.-trained physician, Dankner and his colleagues were surprised when, in the mid-1980s, they began to see evidence of extra-pulmonary M bovis infection in young children. The disease is more often found among adults because it can lie dormant in a person's system for decades and then reactivate at a later time, when they are less healthy. Appearance of M bovis in adults was not necessarily unusual and may not indicate new outbreaks of the disease. Infection among children however, was a different story.

The culprit, he believes, is the soft cheese (queso fresco) that is popular in Mexico which often times uses un-pasteurized milk.

In Dankner's view, the threat is not caused by U.S. milk producers. The reason, he explains, is that U.S. dairy companies are tightly regulated by the U.S.D.A., so that the "risk in the U.S. is pretty minimal." Moreover, since the early 1940s U.S. efforts to eradicate M bovis were largely successful -- accomplished either by segregating infected cattle and raising them separately from non-infected herds or by government incentives to slaughter infected animals.

M bovis gets its name from the cows that are the bacterium's principal vector. Cattle transmit the bacteria amongst themselves through sputum in the air which gets into their lungs and, finally, to their udders and milk. It can be hard to differentiate M bovis from other forms of tuberculosis on the basis of skin tests alone, although,

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once active it causes swelling of the lymph nodes and chronic abdominal pain. And, because these symptoms are often associated with common illnesses, M bovis can sometimes remain undetected.

Dankner notes that "not all Mexican milk is pasteurized, and there is a belief that cheese tastes better if un-pasteurized milk products are used to produce it." (He doesn't dispute that un-pasteurized milk products may be tastier.) Dankner's research led to the projection that "only 50% of (Mexican) milk gets to the creamery, where it is pasteurized."

This theory was further confirmed by demographic patterns of the disease. Mycobacterium bovis among Caucasians and African-Americans is low, while "Hispanics play a high role in disease burden, especially in the pediatric population (children.)" Moreover, although the numbers of infection are relatively small they are nonetheless comparatively costly. Pulmonary tuberculosis can be treated relatively cheaply with medications over a six-month period. For non-pulmonary tuberculosis like M bovis, however, it is necessary to operate on the lymph nodes, not to mention possible resurgence of the disease later in life, which means a short-term cost of at least a full day of care and the possibility of future costs as well.

Because the cases in San Diego were mostly in U.S.- born children, the problem along the border may be greater since infection presumably occurs at least as frequently among children born in Mexico.

Soft cheese products are not the sort of things U.S. Customs officials are looking to keep from crossing the border. But from a public health standpoint, Dankner urges an increase in educational efforts. "In a culturally-sensitive way we need to direct our efforts to the Mexican and Mexican-American population," says Dankner. Such efforts could include a push for stricter enforcement of Mexican pasteurization laws and a campaign to urge people not to consume un-pasteurized cheese.

On the U.S. side of the border, these efforts seem unlikely to receive much support any time soon. Dr. Kathy Moser, head of TB control for the San Diego County Health and Human Services Agency acknowledges that health officials will "talk about the issue when we have the forum to do so, yet only 2-5% of U.S. tuberculosis cases are M bovis. It's not the highest priority." Moser says "it would be great to have a project" to deal with eliminating M bovis, although she cautions that such a program "would have to progress intelligently." Otherwise, without carefully identifying the sources of infection, milk producers could be needlessly forced out of business. This, Moser insists, would be "irresponsible."

Dankner also acknowledges that M bovis eradication may not be the most urgent public health problem along the border. It is however an almost entirely correctable problem. "History shows we can mostly eradicate this problem and, at a certain point you need to put efforts where you can have an impact."

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