

MMWR in Review

Cluster of skin infections associated with tattoos

by Larry K. Pickering, M.D., FAAP

Editor's note: This article summarizes key points from two Centers for Disease Control and Prevention (CDC) reports published in Morbidity and Mortality Weekly Report (MMWR). The comment sections might include information that did not appear in the original publications. For a free subscription to MMWR, visit www.cdc.gov/MMWR.

- “Tattoo-Associated Nontuberculous Mycobacterial Skin Infection – Multiple States, 2011-2012.” *MMWR*. 2012;61:653-656, www.cdc.gov/mmwr/preview/mmwrhtml/mm6133a3.htm.

Approximately 21% of adults in the United States report having at least one permanent tattoo. Outbreaks caused by nontuberculous mycobacteria (NTM) have been reported infrequently after tattooing. This report describes characteristics of tattoo-associated NTM infection clusters in four states during 2011-’12.

Study results

In January 2012, public health officials in New York state reviewed reports of *Mycobacterium chelonae* skin infections in 14 residents who received tattoos in the last quarter of 2011. All infections were associated with use of the same nationally distributed, pre-diluted gray ink manufactured by Company A.

In February 2012, the CDC disseminated an Epi-X public health alert to identify additional tattoo-associated NTM skin infections. A confirmed case was defined as a patient with persistent inflammatory reaction localized within the margins of a new tattoo received between May 1, 2011, and Feb. 10, 2012, and isolation of NTM from a wound or skin biopsy. Results of this study showed the following:

- Twenty-two cases were identified from four states: Colorado, Iowa, New York and Washington.
- Nineteen of the 22 cases (86%) were caused by *M. chelonae*, the others by *M. abscessus*. Investigations found that the use of ink contaminated with NTM before distribution or just before tattooing likely led to infections in each of the reported clusters.
- Pulsed-field gel electrophoresis patterns of 11 available patient isolates and an unopened bottle of Company A pre-diluted gray ink were indistinguishable.
- Among the 22 confirmed cases, 64% were men; the median age of the 22 cases was 34 years (range 20-48 years).



Public health implications

Tattoo-associated NTM infections can range from mild inflammation (rash, papules or nodules) to severe abscesses requiring extensive and multiple surgical debridements. NTM infections are difficult to treat and can require two or more antibiotics administered for at least four months.

To prevent infection when tattooing, the CDC recommends that only sterile ink products and sterile water should be used, and appropriate hygienic practices should be followed. To reduce risk of infection, consumers should:

- Use tattoo parlors registered by local jurisdictions.
- Request that only inks that are manufactured specifically for tattoos be used.
- Request that only sterile water be used for any dilutions. Several NTM organisms are found in water, so addition of nonsterile water to tattoo dye may lead to infection.
- Ensure tattoo artists follow appropriate hygienic practices.
- Be aware of the potential for infection following tattooing and seek medical advice if persistent skin problems occur.
- Notify the tattoo artist and the Food and Drug Administration's MedWatch program if an adverse event occurs.

Comment

Physicians who encounter persistent papular rashes or nodules localized to newly tattooed areas should consider the possibility of an NTM infection and report any adverse event to MedWatch at www.fda.gov/safety/medwatch/howtoreport/default.htm.

The 2012 *Red Book* contains a chapter titled, “Diseases Caused by

Nontuberculous Mycobacteria” and also provides information about MedWatch. It can be found at <http://aapredbook.aappublications.org/content/1/SEC131/SEC284.body?sid=4952b86b-ec82-4ca0-b96b-e8d77704aa89>.



Dr. Pickering is editor of the 2012 AAP Red Book.