

2014 ALERT # 6

Outbreak of Mycobacterium Infections After Preparing Live or Raw Fish or Seafood

- An outbreak of *Mycobacterium marinum* skin and soft tissue infections of the hands and arms has been identified in New York City's Chinese-speaking communities.
- Most patients developed symptoms in October or November 2013 and reported that they had prepared live or raw fish or seafood purchased in a Chinese food or fish market.
- Clinicians should suspect and empirically treat *M. marinum* infection in patients with skin or soft tissue infections who report having handled raw fish or seafood.
- Report all suspect or confirmed cases to the Health Department at 866-692-3641.

Please Share this Alert with All Primary Care, Family Medicine, Emergency Medicine, Internal Medicine, Infectious Disease, General Surgery, Plastic Surgery, Orthopedics, Dermatology, Laboratory Medicine, Pathology, and Infection Control Staff in Your Facility

March 5, 2014

Dear Colleagues,

The New York City Department of Health and Mental Hygiene (DOHMH) has identified a cluster of *Mycobacterium marinum* skin and soft tissue infections (SSTIs) associated with preparing raw fish or seafood for cooking. As of March 4, 2014, DOHMH has received reports of 30 suspected or confirmed SSTIs, including 12 that required surgical debridement. Most first presented in October or November 2013 with erythematous, tender subcutaneous nodules on fingers or hands that spread proximally along lymphatic vessels (i.e., sporotrichoid distribution). See pictures below.



Most patients are Chinese-speaking women in their 60s or 70s, though a number of Chinese-speaking men also have been reported. Patients are residents of lower Manhattan, Brooklyn, and Queens, with most doing their shopping in lower Manhattan or Brooklyn. All patients remember having prepared live or raw fish or seafood for cooking before symptoms began. Some, though not all, report injuries from seafood shells or fish bones when preparing the food. In some cases, effective antibiotic therapy was delayed, as patients self-medicated with traditional Chinese treatments, because physicians prescribed inappropriate antibiotics or because empiric antifungal therapy was prescribed for suspected sporotrichosis.

Histological examination of selected skin biopsy specimens found necrotic or suppurative granulomatous dermatitis suggestive of an infectious process. Stains for acid-fast bacilli (AFB) and fungi have been largely negative. Five clinical specimens grew *M. marinum*. Another specimen was polymerase chain reaction (PCR) positive for *M. marinum*.

In patients with clinically compatible illnesses, physicians should treat empirically for *M. marinum* and not wait for laboratory confirmation, because laboratory testing is time-consuming and low yield. A standard treatment of choice has not been recognized for *M. marinum* SSTI. Clarithromycin (500 mg PO BID), minocycline (100 mg PO BID), doxycycline (100 mg PO BID), or trimethoprim-sulfamethoxazole (100 mg/800 mg PO BID) can be used successfully as monotherapy for uncomplicated *M. marinum* SSTIs. Clarithromycin plus rifampin or rifampin plus ethambutol also have been used successfully as combination therapy. Clinical response may not be apparent for as long as six weeks, and treatment is usually continued for as long as four months. For poorly responding lesions and those with evidence of deeper soft tissue involvement, surgical debridement may be necessary.

What Providers Should Do

- Suspect *M. marinum* SSTI in patients with erythematous, tender subcutaneous nodules or hand and/or arm pain following handling raw or live fish or seafood.
- Refer suspected patients for skin biopsies. Specimens should be sent for histological examination and AFB and fungal culture. Inform laboratory that *M. marinum* is suspected, because specialized culture methods are needed.
- If deep soft tissue infection is suspected from physical examination and imaging studies of hands or arms, consider referral to a hand or plastic surgeon.
- Set a low threshold for starting empiric treatment in patients with suspected *M. marinum* SSTI.
- Report all suspected or confirmed cases to the Health Department at **866-692-3641**. Providers can also report via fax (347-396-2632) or Internet. Instructions and forms are available at <http://www.nyc.gov/html/doh/html/hcp/hcp-urf.shtml>.

As always, we appreciate your assistance in helping us identify and respond to communicable disease concerns in New York City.

Sincerely,

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