SHORT COMMUNICATIONS

Pruritic Papulonodules Following Tattoo Application

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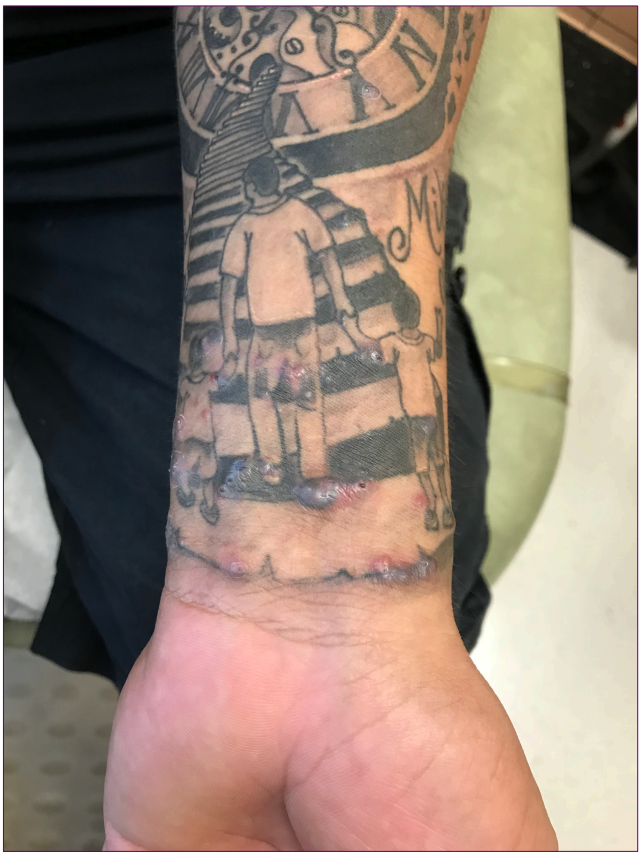
A 32-year-old male patient with no past medical history presented with a 3-week history of asymptomatic lesions on the left forearm within his 1-month-old black and gray tattoo. The lesions were initially pruritic and, at times, would drain purulent material. Patient has had other tattoos done from that same tattoo parlor in the past but denied having similar lesions afterwards. His partner also had a tattoo done that day at the same tattoo parlor and complained of similar smaller lesions at the tattoo site as well. He denied having any allergies to drugs, taking any medications, or smoking. Review of systems was non-contributory. Physical examination revealed multiple round, erythematous to violaceous papules and nodules with associated scale distributed along tattooed skin of the left forearm and wrist (Figure 1). Two 4-mm punch biopsies were performed for histopathologic analysis and for culture and sensitivity. Histopathology revealed a suppurative granulomatous dermatitis associated with a tattoo consistent with an infectious process (Figure 2). Acid fast and Fite stains were negative for mycobacteria and PAS and GMS stains were negative for fungi. Bacterial and fungal wound cultures came back negative. However, tissue culture revealed presence of *Mycobacterium chelonae* for which the diagnosis of tattoo-associated nontuberculous mycobacterial skin infection mas made.

The first case of nontuberculous mycobacterial (NTM) infection after tattooing was reported in 2003 by Wolf and Wolf and, since then, several cases have been published, with some having *Mycobacterium chelonae* as the culprit.[1,2] *M. chelonae* is a rapidly growing, non-tuberculous, acid-fast bacillus that is a natural commensal of human skin and can be found in water systems, soil, and plants.[1-4] Over the last decade, there has been an increase in the number of skin and soft tissue infections by NTM due to increasing cosmetic practices that involve trauma to the skin, such as tattooing[4]. It has been established that NTM contamination can occur in the manufacturing process of tattoo inks or when the ink is diluted with non-sterile, tap water. [1,3,4]

Clinical presentation of tattoo-associated NTM skin infection is variable and includes multiple erythematous papules, pustules, plaques with or without scale, lichenoid papules and plaques, and granulomatous papules within tattooed skin.[4] Appearance of lesions typically occurs 1-2 weeks after NTM-infected tattoo ink application.[4] Histopathologic examination usually reveals a diffuse lymphohistiocytic infiltrate with granulomas.[1,2,4,5] Neutrophils and multinucleated giant cells can also be seen.[4,5] Due to the variations in clinical presentation and histopathology, a tissue

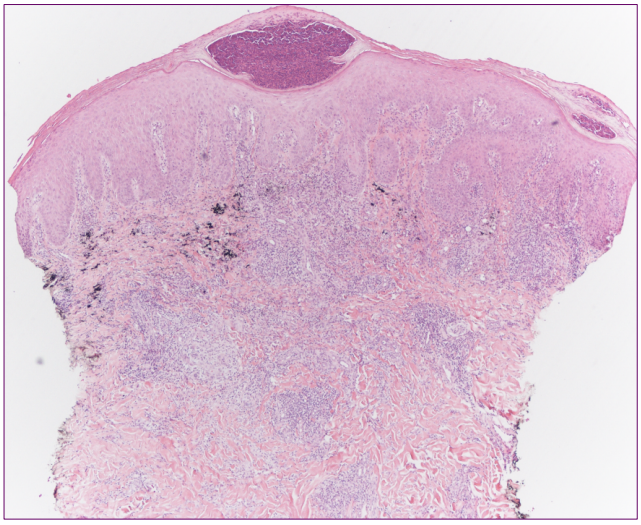
biopsy for culture is considered the gold standard for diagnosis.[4] Empiric antibiotic treatment with macrolides such as clarithromycin or azithromycin, while awaiting susceptibility results, is recommended for localized infection for a duration of 2-6 months.[1,4,5]

Figure 1. Erythematous papules and papulonodules distributed mostly along light black areas of tattoo on left ventral forearm.



The present case is an accurate representation of a localized NTM skin infection resulting from tattoo application with ink contaminated with *M. chelonae*. Patient was treated with clarithromycin with some improvement at his 2-week follow-up appointment. As represented in this case, when evaluating a patient with skin lesions within a new tattoo, physicians must consider NTM infection highly in the differential diagnosis and treat accordingly.

Figure 2. Diffuse and interstitial lymphohistiocytic granulomatous inflammation with multinucleated giant cells and black tattoo ink deposits mainly in the upper dermis accompanied by irregular acanthosis, parakeratosis, and intracorneal neutrophils (H&E, original magnification x40).



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