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Letter to the Editor

Lawsonella clevelandensis: An Under recognized Anaerobe in Culture-Negative Breast Abscesses

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Dear Editor,

Breast abscesses are traditionally associated with *Staphylococcus aureus*, particularly in lactating women. However, an emerging trend in non-lactational abscesses is the involvement of atypical and fastidious organisms that often escape detection by conventional microbiological techniques. One such organism is *Lawsonella clevelandensis*, a partially acid-fast, anaerobic Gram-positive bacillus first described in 2016 [1].

Although rare, *L. clevelandensis* has now been reported in various anatomical sites, including the liver, spine, and soft tissue [2]. Its detection in breast abscesses, although limited in number, raises important diagnostic and clinical considerations. Most notably, all reported cases have involved culture-negative abscesses that required molecular techniques specifically 16S rRNA gene sequencing for definitive diagnosis [3].

We reviewed three published cases of breast abscesses attributed to *L. clevelandensis*, all in non-lactating women aged between 38 and 52 years. Clinical presentation included localized pain, swelling, and erythema. In one case, the lesion was initially suspected to be malignant due to its imaging features. Standard bacterial cultures yielded no growth, delaying targeted therapy. It was only through molecular diagnostics that *L. clevelandensis* was identified.

Treatment strategies across these cases were consistent: surgical drainage combined with anaerobic antibiotic therapy. Agents such as amoxicillin-clavulanate, clindamycin, and metronidazole were effective, with no reported recurrences during follow-up. These outcomes support the hypothesis that although *L. clevelandensis* is difficult to detect, it is responsive to appropriate anaerobic coverage once identified [4].

The clinical implications of these findings are twofold. First, clinicians should maintain a high index of suspicion for anaerobic pathogens in persistent or atypical breast abscesses, especially in the context of negative cultures and inadequate response to empirical antibiotics. Second, the integration of molecular diagnostics into routine practice especially 16S rRNA sequencing can dramatically improve the detection of uncommon pathogens and inform more effective treatment regimens.

Our comparative analysis also highlights the lack of immunocompromising conditions in affected patients, suggesting that *L. clevelandensis* may act as an opportunistic pathogen even in immunocompetent hosts, particularly when there is a history of prior breast surgery or disrupted local tissue environments [2].

In conclusion, *Lawsonella clevelandensis* is an emerging anaerobic pathogen that warrants greater clinical awareness. Its association with culture-negative

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breast abscesses underscores the need for advanced diagnostic strategies. Early recognition and targeted management can lead to excellent clinical outcomes. We advocate for the inclusion of fastidious anaerobes like *L. clevelandensis* in the differential diagnosis of complex breast infections and call for more studies to elucidate its epidemiology and pathogenic potential.

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