Recurrent Breast Abscesses Caused by Corynebacterium minutissimum

STEPHEN A. BERGER,1* ALFRED GOREA,1 JONA STADLER,2 MICHAEL DAN,3 AND MOSHE ZILBERMAN2

Departments of Microbiology,1 Surgery,2 and Internal Medicine,3 The Tel Aviv Medical Center, Tel Aviv, Israel

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A 42-year-old woman developed severe, recurrent breast abscesses caused by Corynebacterium minutissimum. Prior reports of C. minutissimum infection have been limited to erythrasma, a minor dermatosis. The microbiological and clinical features of this species were reviewed.

Erythrasma is a common superficial infection of the skin, characterized by pruritic, reddish-brown macular patches, generally occurring in the intertriginous areas, the toes, and less frequently on the trunk. We recently encountered the etiological agent of erythrasma, Corynebacterium minutissimum, in a case of severe and recurrent breast abscesses.

A 42-year-old woman was hospitalized for pain and swelling of the left breast. Three years previously, she had been treated for transitory post-partum galactorrhea; a breast biopsy was performed 1 month before admission for a solitary mass in the inferior external quadrant of the left breast. The excised tissue revealed mastitis, and the patient was treated with oral ampicillin and cloxacillin.

During the 3 months after the biopsy, the patient experienced pain and recurrent purulent discharge from the operative wound (Fig. 1). Four drainage procedures were subsequently performed under local anesthesia, and a subcutaneous mastectomy was finally considered for uncontrollable infection. The patient refused further surgery, however, and responded to a regimen of intravenous vancomycin, 1.0 g every 12 h for 14 days, followed by oral erythromycin, 500 mg four times daily for 3 months.

There was no past history of diabetes mellitus, dermatitis, intertrigo, or other recurrent infection. On subsequent questioning, the patient stated that she had removed periareolar hairs with a forceps. Physical and laboratory examinations revealed no abnormality of hemogram, blood glucose concentration, or serum protein electrophoresis, and there was no evidence of erythrasma or other significant infection.

Eight blood samples submitted for aerobic and anaerobic culture were sterile. Samples of pus submitted from each of the operative procedures revealed small pleomorphic gram-positive bacilli and large numbers of polymorphonuclear leukocytes on direct examination. Acid-fast stains and cultures for mycobacteria and fungi were negative. Samples inoculated onto sheep blood agar plates produced pure heavy growth of a nonhemolytic, catalase-positive, nonnitrate-reducing, gram-positive organism which produced H2S and failed to liquefy gelatin in 72 h. The isolate was identified as C. minutissimum by the Special Bacteriology Section, Centers for Disease Control, Atlanta, Ga., and was susceptible to tetracycline, cephalothin, vancomycin, and erythromycin in our laboratory (1).

Although erythrasma has been well characterized since 1859, the causative agent, C. minutissimum, was first described in the 1960s (4, 5). This species is commonly isolated from asymptomatic humans, and clinical manifestations vary with climate, age, and degree of crowding (6). Infection may be transmitted experimentally to healthy volunteers (4).

C. minutissimum shares many bacteriological characteristics with Corynebacterium xerosis, but it may be distinguished from the latter on the basis of nitrate reduction (C. xerosis reduces nitrate) (7). Other differential tests include prophyrin production (5), hydrolysis of Tween 80, and growth on hydrogenated castor oil esters (3). Erythrasma is generally diagnosed on the basis of characteristic skin lesions which fluoresce when exposed to UV light (3).

Corynebacterium species other than C. diphtheriae are known to produce severe and life-threatening infection (2); however, there have been no previous reports of deep tissue invasion by C. minutissimum. Although local trauma may have served as a portal of entry, the extensive and recurrent breast abscesses in our patient remain unexplained.

LITERATURE CITED


