CASE LETTER
J Mycol Infect 2021; 26(2): 48-50
pISSN:1226-4709, eISSN:2465-8278
https://dx.doi.org/10.17966/JMI.2021.26.2.48

JMI

# A Case of *Stenotrophomonas maltophilia* Skin Infection at a Flap Site

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*Stenotrophomonas maltophilia* is a multidrug-resistant gram-negative bacillus frequently isolated from soil, water, animals, and plant matter[1]. It forms colonies with an olive-green center and a lighter green peripheral area surrounded by a blue-green halo[2]. *S. maltophilia* is associated with opportunistic infections with high morbidity and mortality in immunocompromised individuals. Intensive care unit admission, mechanical ventilation, central venous catheter, recent surgery, trauma, previous therapy with extensive antibiotics, malignancy, and neutropenia are risk factors associated with *S. maltophilia* infection[3]. Common infections include hospital-acquired pneumonia and bacteremia. However, *S. maltophilia* skin infections are extremely rare[4]. Because of a recent increase in its incidence, an accurate understanding


**Fig. 1.** Localized scaly erythematous annular patches (A) and localized erythematous erosive patches with a blackish crust and secretion (B) on the right lower leg

**Received:** April 18, 2021 **Revised:** May 18, 2021 **Accepted:** June 3, 2021
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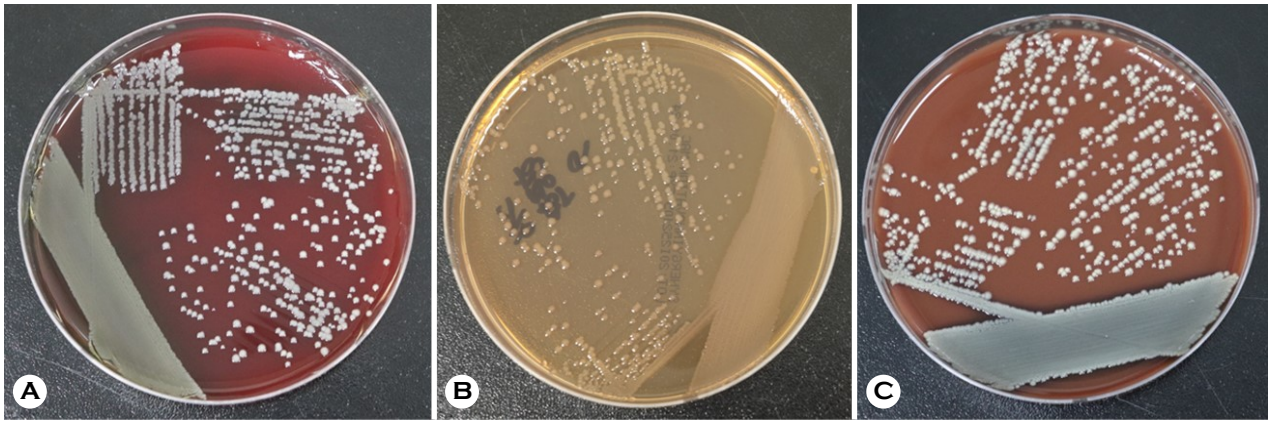


**Fig. 2.** *Stenotrophomonas maltophilia* was detected on blood agar (A), chocolate agar (B), and MacConkey agar (C).

of this disease entity is necessary.

A 68-year-old man presented with a 1-week history of localized erosive erythematous patches with a blackish crust and secretions and scaly localized erythematous annular patches on the right lower leg (Fig. 1). He was diagnosed with squamous cell carcinoma on his right lower leg and had undergone wide excision and placement of a free flap 2 months before. A central venous catheter was placed before surgery and remained in place until 2 weeks after surgery. Levofloxacin and cefepime were administered for wound infection. Two months after surgery, he was referred to the dermatology department for skin lesions. The erosive patches were mainly distributed on the lower margin of the flap, whereas the scaly annular patches were on the upper and lateral margins. A KOH smear of the scaly erythematous annular patches was positive. Fungus and bacterial cultures were performed on the erythematous erosive patches. The fungus culture was negative, but *Stenotrophomonas maltophilia* was detected on blood, chocolate, and MacConkey agars (Fig. 2A-C). The patient was treated with oral trimethoprim-sulfamethoxazole (80 mg/400 mg) twice a day because *S. maltophilia* was sensitive. Amorolfine cream was administered for fungal infection. The erosive lesions improved after a week of treatment.

In this patient, *S. maltophilia* and fungal infection coexisted on his leg, but their relationship seems low since they occurred in different places.

Skin presentations include primary cellulitis, metastatic nodular skin lesions or cellulitis, gangrenous cellulitis, soft tissue necrosis, ecthyma gangrenosum, and infected mucocutaneous ulcer[5]. Treatment of *S. maltophilia* infections is difficult since this organism is intrinsically resistant to most antibiotics. It also grows slowly and has a high mutation rate, which results in antibiotic resistance. Its resistance to β-lactams, carbapenems, aminoglycosides, and quinolones is well known[4]. Therefore, it is recommended to perform a susceptibility test before starting antibiotics. Because *S. maltophilia* can be isolated from nature, contamination or colonization can be suspected. However, single isolation of *S. maltophilia* implies infection rather than contamination or colonization. There were only five cases of skin and soft tissue infection with *S. maltophilia* in Korean dermatology literature[4]. However, none occurred after surgery. To our knowledge, this is the first report of *Stenotrophomonas maltophilia* infection of a flap site in the Korean dermatology literature.

**Keywords:** Flap site, *Stenotrophomonas maltophilia*

## CONFLICT OF INTEREST

In relation to this article, we declare that there is no conflict of interest.

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## PATIENT CONSENT STATEMENT

The patient provided written informed consent for the publication and the use of his images.

## REFERENCES

1. Apisarnthanarak A, Mayfield JL, Garison T, McLendon PM, DiPersio JF, Fraser VJ, et al. Risk factors for *Stenotrophomonas maltophilia* bacteremia in oncology patients: a case-control study. Infect Control Host Epidemiol 2003; 24:269-274
2. Adjidé CC, De Meyer A, Weyer M, Obin O, Lamory F, Lesueur C, et al. A sensitive, specific and predictive isolation medium developed for *Stenotrophomonas maltophilia* study in healthcare settings. Pathol Biol 2010;58:11-17
3. Bin Abdulhak AA, Zimmerman V, Al Beirouti BT, Baddour LM, Tleyjeh IM. *Stenotrophomonas maltophilia* infections of intact skin: a systematic review of the literature. Diagn Microbiol Infect Dis 2009;63:330-333
4. Kim MS, Kim CH, Won CH, Chang SE, Lee MW, Choi JH, et al. A case of metastatic cellulitis caused by *Stenotrophomonas maltophilia*. Korean J Dermatol 2009;47: 930-933
5. Teo WY, Chan MY, Lam CM, Chong CY. Skin manifestation of *Stenotrophomonas maltophilia* infection-A case report and review article. Ann Acad Med Singap 2006; 35:897-900