

Chronic ulcers are a major global burden affecting millions of patients worldwide

Kenji Takahashi*

Department of Dermatological Sciences and Tissue Repair, Kyoto University Graduate School of Medicine, Kyoto, Japan

DESCRIPTION

Chronic ulcers represent a persistent and challenging problem in clinical medicine, affecting millions of individuals worldwide and placing a substantial burden on healthcare systems. Unlike acute wounds that progress through normal and timely stages of healing, chronic ulcers fail to proceed through an orderly repair process, often remaining in a prolonged inflammatory state. This disruption in healing can persist for weeks, months, or even years, significantly impacting a patient's quality of life. Chronic ulcers are not simply localized skin defects but complex manifestations of underlying systemic conditions such as diabetes mellitus, peripheral vascular disease, venous insufficiency, and prolonged pressure exposure. One of the most important characteristics of chronic ulcers is their multifactorial nature. They rarely arise from a single cause and instead develop due to a combination of impaired blood flow, neuropathy, infection, mechanical pressure, and metabolic dysfunction. Diabetic foot ulcers are among the most common types, resulting from a combination of peripheral neuropathy and microvascular complications. Patients often lose protective sensation in their feet, making them unaware of minor injuries that gradually worsen over time. Venous ulcers, on the other hand, are typically associated with chronic venous insufficiency, where improper venous return leads to increased pressure in the lower limbs, tissue breakdown, and delayed healing. Pressure ulcers, commonly seen in immobilized or bedridden patients, result from prolonged compression of skin and underlying tissues, leading to ischemia and necrosis. A key pathological feature of chronic ulcers is the persistence of inflammation. In normal wound healing, inflammation is a temporary and tightly regulated phase that helps remove debris and prevent infection. In chronic ulcers, this phase becomes prolonged and dysregulated. Excess inflammatory mediators continue to damage surrounding tissues, preventing progression to the proliferative phase. Infection plays a major role in the persistence and worsening of chronic ulcers. The presence of bacteria, particularly in biofilm form, makes treatment more difficult and reduces the despite antimicrobial therapy. This contributes to recurrent infections and delayed healing. Chronic ulcers exhibit

a cycle where tissue damage promotes infection, and infection further exacerbates tissue damage, creating a self-perpetuating condition that is difficult to break.

Another important aspect of chronic ulcers is their association with systemic health conditions. Peripheral arterial disease limits oxygen and nutrient delivery to affected tissues, making healing extremely difficult. Nutritional deficiencies, particularly in protein, vitamin C, zinc, and iron, further impair the body's ability to regenerate tissue. Patients frequently experience pain, reduced mobility, and dependency on caregivers, which can lead to emotional distress, anxiety, and depression. Chronic ulcers contribute to loss of productivity and reduced quality of life, making them a major public health concern.

Diagnosis and management of chronic ulcers require a comprehensive and multidisciplinary approach. Clinical assessment involves identifying the underlying cause, evaluating vascular status, and assessing the extent of tissue damage. Imaging and laboratory tests may be used to determine infection severity and vascular insufficiency. Despite advances in wound care technology, chronic ulcers remain difficult to treat due to their complex underlying mechanisms. Even after successful healing, without proper preventive measures, ulcers can reappear in the same or different locations. Public health interventions aimed at improving diabetes control, vascular health, and mobility support can play a crucial role in reducing the burden of these conditions.

In conclusion, chronic ulcers represent a complex interplay of biological, systemic, and environmental factors that disrupt normal wound healing processes. They are characterized by persistent inflammation, impaired tissue repair, and frequent infection, all of which contribute to prolonged disease duration and significant patient morbidity. Effective management requires not only advanced medical interventions but also a holistic approach that addresses underlying diseases, nutritional status, and lifestyle factors. As healthcare systems continue to evolve, greater emphasis on prevention, early intervention, and multidisciplinary care will be essential in reducing the burden of chronic ulcers and improving patient outcomes.

Correspondence to: Kenji Takahashi, Department of Dermatological Sciences and Tissue Repair, Kyoto University Graduate School of Medicine, Kyoto, Japan, E-mail: kenji.takahashi.academic@asiamedresearch.org

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