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Commentary

Surgery for Chronic Plantar Ulcers and its Impact on Hansen Disease Patient's Daily Life

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DESCRIPTION

Hansen disease, also known as leprosy, is an infectious disease caused by *Mycobacterium leprae* that primarily affects the skin, peripheral nerves, upper respiratory tract and eyes. If left untreated, it can lead to severe sequelae, including deformities and disabilities, many of which persist long after the infection has been cured. One of the most common and debilitating sequelae of Hansen disease is the development of chronic plantar ulcers, particularly in individuals with nerve damage, which can result in sensory loss and deformities in the feet. These ulcers are often difficult to manage and surgical intervention may be required for their closure. However, the impact of such surgeries on the Quality of Life (QoL) of patients with Hansen disease sequelae is often underappreciated.

Pathophysiology of Hansen disease and plantar ulcers

Hansen disease is caused by *Mycobacterium leprae*, which predominantly affects the peripheral nervous system. Sensory nerve involvement results in the loss of sensation, particularly in the extremities such as the hands and feet. As a result, individuals with Hansen disease are unable to feel pain or discomfort in areas where pressure may be applied. In the feet, this leads to unrelieved pressure points, trauma and eventually the formation of chronic plantar ulcers.

These ulcers can become infected and, if left untreated, may lead to severe complications such as bone involvement, deformities and permanent disability. Additionally, sensory loss often results in deformities such as foot drop, claw toes and Charcot joint disease, which further complicate wound healing and mobility.

Pre-surgical evaluation

The pre-surgical evaluation of patients with Hansen disease and chronic plantar ulcers involves a comprehensive assessment of both the ulcer and the patient's overall health. It is essential to address not only the physical aspects of the wound but also the psychosocial and emotional factors that may affect the patient's response to surgery.

Physical assessment of ulcers

A detailed examination of the plantar ulcers is essential to understand the extent of tissue damage and the need for surgical intervention. This may include the assessment of wound size, depth, signs of infection and any underlying bone involvement. In some cases, imaging studies such as X-rays may be performed to assess the presence of osteomyelitis or other skeletal complications. Additionally, vascular studies may be conducted to assess blood flow to the affected area, as poor circulation can significantly impair wound healing.

Neurological evaluation

Given that nerve damage is a characteristic of Hansen disease, a thorough neurological examination is necessary. This evaluation helps determine the extent of sensory loss and any motor deficits that may contribute to deformities and pressure ulcers. Patients with significant sensory impairment or motor dysfunction may be at higher risk of complications during and after surgery. Moreover, understanding the level of nerve involvement will help in planning post-surgical rehabilitation and patient education.

Psychosocial assessment

The psychological impact of Hansen disease, particularly in the context of chronic ulcers, is significant. Patients often experience feelings of isolation, stigma and depression, which can affect their adherence to treatment plans and their overall emotional well-being. A thorough psychosocial assessment is important to identify any mental health concerns that may need to be addressed during the perioperative period. Psychological support, including counseling and mental health care, may be necessary to ensure a positive outcome post-surgery.

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Post-surgical evaluation

Post-surgical evaluation focuses on assessing the immediate outcomes of surgery and the impact on the patient's quality of life over time. Several factors must be monitored, including the healing of the ulcer, functional recovery, pain management and psychological adjustment.

Wound healing and functional recovery

The primary goal of surgery is to close the chronic plantar ulcers and restore function to the affected foot. The healing process is closely monitored and any signs of infection or complications are promptly addressed. Patients are typically given antibiotics if there is any concern for infection and regular follow-up visits are scheduled to assess wound healing.

Functional recovery is also a key component of post-surgical evaluation. After the ulcer is closed, patients may need to undergo physical therapy to regain strength, improve mobility and prevent further deformities. The rehabilitation process may be lengthy and the patient's commitment to following the prescribed therapy plays a significant role in recovery.

Pain management

Effective pain management is essential to ensure the patient's comfort and compliance with post-surgical care. While pain following surgery is common, it is important to differentiate between normal post-surgical pain and the possibility of complications such as infection or poor healing. In addition to pharmacological pain management, other strategies such as wound care and the use of appropriate footwear may help alleviate discomfort.

Psychological adjustment

Post-surgical recovery often involves emotional and psychological adjustment. Many patients with Hansen disease experience feelings of hopelessness and depression due to the long-term nature of their condition and the challenges associated with ulcer management. Post-surgical evaluations should include an assessment of the patient's emotional well-being and psychological resilience. Mental health support may be necessary to help patients adjust to their new circumstances and foster a positive outlook on their recovery.