E-Poster

EP-947

Fracture of the Leg Bones Complicated by Chronic Limb Infection - The Role of PMR in the Amputation Decision

Topic: Prosthetics and Orthotics

Carolina Paiva[1], Rui Costa[2], João Paulo Castro[2]

[1]*Physical Medicine and Rehabilitation, ULS Coimbra, CMRRC-Rovisco Pais, Tocha, Portugal*
[2]*Physical Medicine and Rehabilitation, ULSSJ HSJ, Porto, Portugal*

BACKGROUND

Chronic limb infection can cause significant physical and emotional distress. Combination of persistent pain, disability, and the ongoing battle with infection can lead to profound suffering. Physical Medicine and Rehabilitation (PMR) plays a vital role in the comprehensive management of these patients, particularly in shared decision-making regarding amputation.

CASE DESCRIPTION

A 57-year-old male sustained a right tibial pilon fracture in a 2006 traffic accident, treated with osteosynthesis. In 2011, he developed a fistulous tract with drainage and was diagnosed with chronic osteomyelitis, requiring multiple debridements and antibiotic therapy. In March 2018, he underwent fistulectomy, sequestrectomy, fasciocutaneous flap reconstruction, and external fixation. The fixator was removed after four months, but persistent drainage led to extensive resection and iliac bone grafting in May 2019 without primary closure. The wound failed to heal, causing recurrent infections and emergency visits.

Given this outcome, a multidisciplinary discussion involving Orthopedics, PMR, and Vascular Surgery led to the proposal of lower limb amputation, which the patient accepted. PMR assessment noted skin redness 10 cm below the patella and drainage areas. It was advised to preserve 35-60% of tibial length, with knee disarticulation preferred if less than 35% was feasible. In May 2023, the patient underwent uncomplicated transtibial amputation.

At the three-month PMR follow-up, the patient had a painless, intact scar, a 17 cm cylindrical stump, preserved mobility and strength, and was independent in Activities of daily living (ADLs), walking with two crutches. A K3 functional level transtibial prosthesis was prescribed with a total-contact carbon socket, polyurethane interface, passive vacuum suspension, carbon fiber foot with dynamic energy return, and a lightweight endoskeletal structure. After rehabilitation, he became independent in ADLs, walking outdoors, and climbing stairs unassisted.

DISCUSSION

This case highlights repeated hospitalizations and surgeries due to chronic bone infection, leading to suffering, loss of autonomy, and reduced quality of life. Decision to proceed with amputation should not be taken lightly; however, it remains a viable option in cases of chronic, complicated limb infection associated with significant functional impairment. As evidenced in this case, the use of prosthetics markedly improved the patient's functional capacity and overall quality of life.

CONCLUSION

Physical Medicine and Rehabilitation is crucial in managing patients with chronic limb infection associated with functional impairment. It plays a key role in decision-making, determining amputation levels, when necessary, prosthetic fitting, and functional recovery, ultimately restoring quality of life, as demonstrated in this case.

Statement of Disclosures

None

Corresponding Author:
Carolina Paiva
Physical Medicine and Rehabilitation, ULS Coimbra, CMRRC-Rovisco Pais, Tocha, Portugal
Email: carolina_paiva11@hotmail.com

Doi: 10.5606/archisprm.2026.EP-947