E-Poster

EP-174

Case Report: Remission of Chronic Osteomyelitis Fistula Using Shock Waves

Topic: Physical Modalities

Raquel Lamas[1], Fernanda Torres[2], Giovana Resende[2], Luisa Gamarra[3], Ana Beatriz Gomes[2], Daniela Rendon[2], Iasmin Camacho[2], Diana Valencia[3], Ana Lucia Mourão[2]

[1]*Rio de Janeiro State University, Rio de Janeiro, Brazil*
[2]*Rio de Janeiro State University, Brazil*
[3]*Rio de Janeiro State University, Colombia*

BACKGROUND

Osteomyelitis is a persistent bone infection that can occur hematogenously or by contiguity with infection focus of traumatic, surgical or implant origin. Shockwave therapy (extracorporeal shockwave therapy - ESWT) is a promising form of treatment that uses mechanical stimulus to generate tissue healing. Objective was to evaluate the efficacy of ESWT in the healing of a wound caused by chronic osteomyelitis.

CASE DESCRIPTION

Patient was a 52 years old male, with chronic osteomyelitis of the right tibia, following a 30 years old blunt trauma during a soccer match. He received antibiotic therapy and underwent several surgical approaches for mechanical washing and debridement. Bone cultures were carried out in 1988 and 2003, showing the presence of *Staphylococcus aureus*. In 2022, after a long period of resolution of the wound, it reappeared. Bone fragments from the cortical and proximal tibia were cultured, with identification of *Staphylococcus lugdunensis* and *Pseudomonas stutzeri*, respectively. At the time, the patient opted for conservative treatment due to the absence of pain and no loss of function. Diaphysectomy with external fixation or venous antibiotic therapy were not indicated. ESWT was applied to help heal the proximal tibia wound. Twelve shockwave applications were carried out over a six-month period, with seven days intervals between sessions. The Swissdolorclast protocol used 4,000 pulses per session, with a 35mm and 15mm tip, energy between 1.5 Bar and 2.0 Bar and a frequency of 8Hz. After six months, the patient was asymptomatic and the wound was completely healed.

DISCUSSION

The case in question is associated with a 30 years old blunt trauma, with a history of surgical treatment and previous antibiotic therapy which led to a chronic wound in the proximal region of the right tibia. Conventional treatment was associated with ESWT with the aim of reducing healing time, providing better tissue re-epithelialization and, ultimately, decreasing complications risk. The application of physical stimuli to living tissues through the phenomenon of mechanotransduction (mechanical stimulus inducing a biochemical cellular response) produces important effects, such as neoangiogenesis, leading to greater blood supply and, through still unclear mechanisms, tissue regeneration.

CONCLUSION

Extracorporeal shockwave therapy can act as an adjunct in the management of wounds associated with chronic infectious diseases. A favorable response to ESWT was observed in the healing process of chronic osteomyelitis. Further studies should be carried out in this area in order to establish the best treatment parameters.

Statement of Disclosures

None

Doi: 10.5606/archisprm.2026.EP-174

Corresponding Author:
Raquel Lamas
Rio de Janeiro State University, Rio de Janeiro, Brazil
Email: raquelcottalamas@gmail.com