

Technological therapies in the treatment of surgical wound infection

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Objective: To present the favorable outcome of the combination of advanced technological therapies in the treatment of surgical site infection.

Method/Case report: Male patient, 31 years old, obese, victim of a car accident in 2022, which resulted in the placement of a prosthesis in his left knee, diagnosed with septic arthritis after late knee arthroplasty, with the need to remove the prosthesis, opted for 2 stages (spacer with cement and vancomycin) due to large loss of skin and soft tissues with no possibility of replacement in a single stage. Admitted to the emergency room of a tertiary hospital in Londrina (PR) on 02/12/2025, complaining of worsening infection in his left leg. On 02/19/2025, the patient underwent surgical debridement and placement of Negative Pressure Therapy (NPT) with a pressure of -120 mmHg. On the same date, the Hyperbaric Oxygen Therapy (HBOT) protocol was started. During treatment, the patient underwent 5 full TPN changes and completed 57 HBO sessions, associated with antibiotic therapy. The evolution of the wound bed was favorable, allowing the spacer to be changed on 04/10/2025.

Results: Although the patient is still waiting for the replacement of the knee prosthesis, he showed functional improvement and improved quality of life, demonstrating the effectiveness of the therapies used. It is important to emphasize that antibiotic therapy was guided by culture, and the patient continues to be monitored to treat the infectious process.

Conclusion: The combination of Hyperbaric Oxygen Therapy (HBOT) and Negative Pressure Therapy (NPT) proved to be effective in the treatment of surgical wound infection, demonstrating the importance of a multidisciplinary approach and the use of advanced technologies to optimize clinical results and improve the quality of life of patients.

Key Words: Hyperbaric oxygen therapy; Negative pressure therapy; Surgical wound infection; Multidisciplinary approach.



Figure 1 - 17/02/2025



Figure 2 - 19/02/2025



Figure 3 - 17/03/2025



Figure 4 - 24/03/2025