

Treating post-trauma osteomyelitis cases in the conflict setting of Gaza: a retrospective cohort study

Rasha Aqel, MSF France, Palestine

Background

Post-traumatic osteomyelitis (PTO) is a serious consequence of orthopaedic trauma often complicated with multi-drug resistant (MDR) infections, a major health issue globally and particularly in conflict settings like Gaza, Palestine. In this study we aimed to provide a description of the clinical characteristics and outcomes of PTO patients treated by MSF in our reconstructive surgery centres in Gaza, Palestine.

Methods

This is a retrospective cohort study using routinely collected clinical data on patients with PTO admitted to the reconstructive surgery centres supported by MSF in Gaza, between 01-December-2018 and 15-September-2021 and followed-up till 31-January-2022.

Results

202 patients with 275 PTO episodes, primarily to gunshot wounds resulting from the conflict in Gaza were included. Among all episodes, 43% (118/275) were polymicrobial, with 437 organisms isolated in total. The most common isolated pathogens were *Staphylococcus aureus* (157/437, 36%), *Staphylococcus epidermidis* (71/437, 16%) and *Pseudomonas aeruginosa* (45/437, 10%). 33% (146/437) of the isolates were MDR; the most prevalent being Methicillin-resistant *Staphylococcus aureus* [MRSA, (97/146, 66%)] and extended spectrum beta-lactamase [ESBL, (24/146, 16%)]. 77 (38%) of PTO patients had ≥ 1 recurrent infection during their follow-up. The odds of developing an MDR infection with a polymicrobial episode were almost twice higher than with a monomicrobial episode [OR 2.39 (95% CI 1.36 - 4.24), p-value=0.03]. Patients admitted within 1 year from their injury were almost 80% less likely to develop an MDR infection versus those admitted ≥ 4 years from their injury [OR 0.17 (95% CI (0.03 - 0.73), p-value=0.031].

Conclusion

The study results highlighted the level of complexity of PTO cases seen in Gaza with a high risk of recurrent infections. This provides an evidence-based data to guide the existing MSF treatment guidelines.

Treating Post-traumatic Osteomyelitis cases in Gaza is complex and is presented with high MDR infections and risk of recurrent infections.

