



INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

## **A COMPARISON OF THE EFFECTIVENESS OF THE GLASS BEAD STERILIZER COMPARED TO THE AUTOCLAVE IN ERADICATING ANTIBIOTIC RESISTANT ESCHERICHIA COLI, METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS, AND CANDIDA**

*M Caligayahan<sup>(1)</sup> - M Rovira<sup>(1)</sup> - A Dy-chua<sup>(1)</sup> - M Verzosa<sup>(1)</sup>*

*Department Of Dermatology, St. Luke's Medical Center, Quezon City<sup>(1)</sup>*

**Introduction:** Dermatologists conduct different aesthetic and surgical procedures, with risk of infective complications. There is a need for sterilization equipment that is robust, affordable, reliable, safe, expedient, and simple to use in the chair-side setting.

**Objectives:** The aim of this trial was to determine if the glass bead sterilizer can eradicate microorganisms as effectively as the autoclave

**Material and Methods:** Forty-five comedone extractors were contaminated with 3 organisms: antibiotic-resistant *Escherichia coli*, Methicillin-resistant *Staphylococcus aureus* (MRSA), and *Candida albicans*. They were randomly assigned into 5 groups: Group A (contaminated extractors subjected to autoclave), Group B (contaminated extractors subjected to glass bead sterilization), Group C (positive control), Group D (negative controlA), and Group E (negative controlB). Presence of organisms was then assessed through appearance of turbidity and growth of organisms on agar plates.

**Results:** No growth was observed for each type of organism: Antibiotic-resistant *Escherichia coli*, Methicillin-resistant *Staphylococcus aureus* (MRSA), and *Candida albicans* after autoclave sterilization and glass-bead sterilization.

**Conclusion:** In this study, the glass bead sterilizers, after 15 minutes of being activated, were already able to reach a temperature as high as 191°C, and 221°C after another 20 minutes, effectively destroying *Candida albicans*, ESBL *E. coli*, and MRSA from the artificially contaminated comedone extractors.

