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Clinical Characteristics and Antibiotic Susceptibility of Staphylococcus aureus-Infected Dermatoses.

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Introduction & Objectives:

Methicillin-resistant *Staphylococcus aureus* (MRSA) poses significant treatment challenges, particularly in community settings. Despite its growing prevalence, data on *S. aureus*-associated infected dermatoses (ID) in outpatient dermatology clinics remain limited. This study aims to assess the clinical characteristics, microbiological profiles, antibiotic resistance patterns, and treatment outcomes of *S. aureus*-associated ID in an outpatient dermatology clinic in Heraklion, Greece.

Materials & Methods:

A prospective observational study was conducted from January 2023 to January 2025. Consecutive adult patients with clinically diagnosed infected dermatoses (ID) and microbiologically confirmed *S. aureus* infection were recruited. Demographic, clinical, and treatment data were recorded. Skin swabs were collected, cultured, and analyzed for antimicrobial susceptibility following Clinical and Laboratory Standards Institute (CLSI) guidelines. Statistical analyses were performed using IBM SPSS Statistics (Version 25.0) to evaluate associations between clinical and microbiological findings.

Results:

A total of 68 patients were included, with a mean age of 46.7 years (SD ± 25.1). MRSA was identified in 22.1% (15/68) of cases and was significantly associated with female gender ($p = 0.014$). The most common clinical diagnoses included eczema (35.3%), folliculitis (19.1%), and hidradenitis suppurativa (10.3%). Resistance rates were highest for benzylpenicillin (81.8%), levofloxacin (54.9%), and erythromycin (39.4%). Resistance to fusidic acid, clindamycin, mupirocin, and tetracycline was observed in 38.2%, 20.6%, 16.9%, and 10.3% of isolates, respectively. Other pathogens, including *Pseudomonas aeruginosa* and *Escherichia coli*, were identified in 27.9% of cases. Systemic antibiotic therapy was more frequently administered to patients with oxacillin-resistant *S. aureus* ($p = 0.039$). Among all patients, 16.2% were immunosuppressed, receiving medications such as oral prednisolone (45.4%), methotrexate (27.3%), azathioprine (18.2%), and mycophenolate mofetil (9.1%). Treatment regimens included topical fusidic acid (27.9%), mupirocin (16.2%), and clindamycin (8.8%), while systemic therapy involved oral doxycycline (14.7%), amoxicillin/clavulanic acid (13.2%), and cefuroxime axetil (10.3%). Despite the high prevalence of antimicrobial resistance, all patients achieved clinical cure.

Conclusion:

This study highlights the significant burden of MRSA in outpatient dermatology settings and underscores the necessity for local antimicrobial resistance surveillance. The findings emphasize the importance of informed empirical antibiotic selection to optimize treatment strategies for *S. aureus*-associated ID and improve patient outcomes. Future research should focus on long-term monitoring of resistance trends and evaluating novel therapeutic approaches for managing *S. aureus* infections in dermatology clinics.