**Materials and Methods**

This was an observational cohort study that was conducted over a nine month period from October 2018 to May 2019 at the Hidradenitis Suppurativa Clinic of the 2nd Department of Dermatology and Venereology, National and Kapodistrian University of Athens at Attikon General University Hospital in Athens, Greece. The study was approved by the hospital Ethics Committee. Consecutive patients with a clinical diagnosis of HS, who have not taken any antibiotic treatment for any reason during the last three months, were enrolled. The Hurley score was used for HS patients. All patients gave their informed consent. In all patients, a complete history was obtained. Clinical examination was performed by two qualified dermatologists.

*Sample collection and determination of S. aureus growth and antibiotic resistance*

 Specimens were collected with a sterile polyester swab from the anterior nares and oropharynx by rotating the swab with light pressure. The screening areas were the nostrils and the throat. The axilla, femoral and perirectal areas were not screened, since HS patients usually apply topical antiseptics on these areas that could possibly affect the *S. aureus* status.Swabs were first inoculated in thioglycollate enrichment broth overnight at 350C to 370C, and then they were streaked on both mannitol salt agar and 5% sheep blood agar plates. The plates were incubated at 350C to 370C for up to 48 hours.

 Identification was performed based on colonial morphology, Gram stain, catalase, latex agglutination testing for coagulase detection and was finally confirmed by the use of VITEK 2 system (bioMerieux, Marcy-l'Étoile, France). Antibiotic susceptibility testing was performed on all *S. aureus* isolates using the VITEK 2 system (bioMerieux, Marcy-l’Etoile, France).

Isolates were also tested for induced clindamycin resistance (ICR) and methicillin resistance with the cefoxitin screen. Isolates were defined as MRSA when the cefoxitin screen was positive [4]. All *S. aureus* isolates were tested for antibiotic resistance for the following antibiotics: benzylpenicillin, oxacillin , erythromycin, clindamycin, fosfomycin, fusidic acid, ampicillin/sulbactam , moxifloxacin, levofloxacin, linezolid, teicoplanin, vancomycin, tetracycline, tigecycline, nitrofurantoin and trimethoprim/sulfamethoxazole, gentamicin, tobramycin, ciproflocacin and rifampicin. All isolates were also tested for induced clindamycin resistance (ICR).

MRSA colonization was defined as cultures growing MRSA from at least one body site, anterior nares or nasopharynx. Colonization with methicillin sensitive *Staphylococcus aureus* (MSSA) was defined as patients harboring MSSA alone, without MRSA isolation from any of the sites.

*Statistical analysis*All data collected were entered to a database and analyzed using IBM SPSS Statistics 25. Relative and absolute frequencies were calculated for qualitative variables while mean (or median) and standard deviation was used for continuous variables. Chi-square test was used for the univariate analysis of qualitative variables and students t-test or Mann Whitney for the univariate analysis of continuous data. Continuous data were assessed for normality using Kolmogorov-Smirnov test. Bonferroni test was used to correct for type 1 error. The level of statistical significance was set at 0.05.