Infrared thermography and sonography combination for inflammation evaluation in hidradenitis suppurativa patients

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Introduction

According to literature, infrared thermography (IT) method is rapidly expanding in hidradenitis suppurativa (HS) diagnostics due to its advantages over other imaging studies as simplicity, accessibility, possibility of real time measuring. Combination of IT and skin sonography could improve inflammation evaluation and patients follow-up during the treatment. We present a successful experience with these two imaging methods in HS patient diagnostic.

Method

31 years old female was clinically examined and standardized photographic documentation were made. IT was done by using FLIR E7850 camera and sonographic images were collected by using MyLab™Seven (Esaote S.p.A) ultrasound. IT was performed at a temperature of 22 ± 2°C (10 minutes acclimatization) and pictures were taken accordingly to standardized photographic documentation. Inflammatory lesions, during IT, were marked by using flexible rulers fixed on the skin by medical patch. In order to know where to apply the ultrasonic transducer and to make the optical photo image, we fixed white „triangular-shape“ markers on the housing of the transducer.

Results

In right axilla area two inflammatory nodules, one non-inflammatory nodule were found. Inflammatory nodule was chosen as target of this experiment. Ultrasonography showed fluid collection (3.3x0.7cm) in dermis with peripheral hyper vascularisation. IT imaging revealed the warmer temperature in right axilla as 36.0°C. Both of the pictures were combined to make the precise inflammation evaluation.

Conclusion

Combination of IT and sonography images could be used to improved inflammation evaluation in HS patients and they are potential clinical biomarker for treatment efficacy monitoring.