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Noninvasive imaging modalities in dermatologic disease: Identification of potential novel biomarkers in hidradenitis suppurativa

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Noninvasive imaging biomarkers have the potential to contribute to accurate clinical assessment of hidradenitis suppurativa (HS). Imaging techniques such as ultrasound and MRI are already used as assessment adjuncts in patients with moderate to severe disease. The development of imaging-based biomarkers has the potential to overcome major challenges in the accurate and reproducible assessment of disease severity (and response to novel therapies) in HS. A review was performed using Medline, Embase, and Web of Science until June 30, 2019. Analysis by imaging modality employed was used to structure assessment of the literature with quantitative data summarized by narrative synthesis. Across the spectrum of dermatologic disease, noninvasive imaging modalities such as ultrasound, MRI, confocal microscopy, EIS, optical coherence tomography and heat spectroscopy were identified. Only ultrasound, MRI and heat spectroscopy have been used in HS although identified assessment techniques have the potential to be applied to inflammatory disorders more broadly. Limited quantifiable data can currently be extracted from existing imaging modalities in HS. This lack of quantifiable data is not an inherent limitation of imaging, but due to a lack of established or proposed quantifiable data points which can be correlated with existing biological, inflammatory and clinical parameters. This review has identified and proposed quantifiable datapoints in the various imaging modalities examined. Such datapoints have the potential of become validated biomarkers in future studies. Further work is needed to assess these proposed datapoints and correlate them with existing clinical and biological parameters in order to identify imaging biomarkers in HS.

Commercial disclosure: None identified.

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Effectiveness and safety of ustekinumab using intravenous induction in patients with hidradenitis suppurativa

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Background: Adalimumab is the only approved biological therapy for hidradenitis suppurativa. Several case reports and case series have been published, but some extra evidence would be useful in clinical diary practice.

Objective: To evaluate effectiveness and safety of ustekinumab, using intravenous induction, in patients with HS.

Design: Prospective descriptive study.

Period: 01/01/2017−28/08/2019.

Setting: Tertiary general university hospital.

Inclusion criteria: Adult patients with HS treated with ustekinumab intravenous induction adjusted by weight, followed by subcutaneous maintenance.

Study variables: Demographics (sex, age and weight), comorbidities, Hurley stage, previous and concomitant therapies. Effectiveness was described using HiSCR and safety as incidence and severity of side effects described by CTAE classification. Quantitative variables were described with medians and and qualitative variables with frequencies.

Results: We included 6 patients (50% male, 50% female) with a median of 47 years and 72.6 kg. The main comorbidity found was smoking (83.3%). Hurley stage was III in all patients (100%). Before the treatment with ustekinumab our patients received: adalimumab (100%), antibiotics (100%), surgery (66.67%), retinoids (66.6%) and immunomodulators (33.3%). During the evaluation period, patients received concomitant antibiotics (50%), surgery (16.6%) and retinoids (16.6%). Patients were followed up to date for 4 weeks and it is expected to follow them for 12 weeks more. 50% of patients archieved HiSCR, without suffering any adverse event.

Conclusions: In our center, the 50% of our patients treated with ustekinumab using intravenous infusion archieved HiSCR, without any side-effect related with the drug after 4 weeks under treatment.

Commercial disclosure: None identified.

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Secukinumab significantly improves clinical and patient-reported outcomes up to 18 months of follow-up: Real-world evidence from a US psoriasis registry

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Background: We examined the real-world effectiveness of secukinumab in improving disease severity and patient-reported outcomes (PROs) at 18 months in patients with psoriasis in the US Corrona Psoriasis Registry.

Methods: Adult US patients who initiated secukinumab at enrollment in the Corrona Psoriasis Registry and had an 18-month follow-up visit as of 5/30/2019 were included. Outcomes assessed through 18 months included affected body surface area (BSA); 5-point Investigator's Global Assessment (IGA mod 2011; 0-4); Dermatology Life Quality Index (DLQI; 0-30); pain, itch, and fatigue severity (visual analog scale [VAS]; 0-100); EuroQol VAS (EQ VAS; 0-100); and Work Productivity and Activity Impairment questionnaire.

Results: Of 110 secukinumab initiators who completed an 18-month follow-up visit, 73 (66.4%) maintained secukinumab treatment and were included; mean age was 52.2 years, 56.2% were male, mean time since psoriasis diagnosis was 20.5 years, and 82.2% had previous biologic use. At 18 months, patients had significant improvements from enrollment in, BSA (mean difference: −12.3%) and IGA mod 2011 score (−1.4) and a higher proportion had IGA mod 2011 0/1 (52.1% vs 6.8%) and DLQI 0/1 (46.6% vs 12.5%) than at enrollment (all $P < .01$). Patients reported significant improvements in pain (mean difference: −23.5), itch (−28.0), fatigue (−9.5), EQ VAS (8.5), impairment while working (−13.6%), overall work hours affected (−14.8%), and daily activities impaired (−8.7%) (all $P < .05$).

Conclusions: Despite most patients having been previously treated with a biologic, secukinumab significantly improved disease severity and PROs up to 18 months in this US real-world study.

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Evaluation of the timeliness and accuracy of inpatient dermatology pathology reports at Saint Louis University Hospital

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Background: Studies have shown that dermatology consultations often result in changes in both the diagnosis and management of hospitalized patients, thus obtaining pathology results in a timely manner is imperative for patient care. Based on our previous study (SLU IRB#28817), we found that the average time to receive a biopsy readout was 3 days (not counting weekends or holidays) and if a dermatopathology consult was requested, it took an average of 7 days to receive the specimen in the dermatopathology lab.

Methods: A retrospective study design was used to collect inpatient dermatology consult biopsy data from July to December 2017 at SLU Hospital and compared data from September 2018 (start of the interdepartmental consult biopsy protocol) through January 2019. Only inpatient biopsies performed when a non-dermatopathology trained consult attending was on service were included in the data. The new protocol included a dermatopathology-trained attending physically traveling to the pathology lab to view the slides and generate a report. We sought to compare the difference in the number of days it took to receive a biopsy readout with the original SLU Hospital protocol versus the new interdepartmental consultation biopsy protocol.

Results: There were at total of 14 inpatient biopsies performed during the study period. The average time to readout prior to the protocol was 3 days. This was reduced to 1.5 days after the new protocol was put into place.

Conclusions: Having an inpatient interdepartmental consult biopsy protocol improves the timeliness of pathology readouts.

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