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Store-and-forward teledermatology impact on diagnosis, treatment, and dermatology referrals: Comparison among four practice settings

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Background: Store-and-forward (SAF) teledermatology involves non-dermatologists sending clinical images to dermatologists. This improves patient care and reduces face to face (FTF) specialist office visits. Comparisons between dermatologist diagnostic concordance with referring provider, treatment change recommendations, and FTF referrals has yet to be compared by type of practice setting.

Methods: This IRB-approved retrospective chart review examined SAF teledermatology eConsults from four practice settings: MD/DO office visits, MD/DO walk-in clinics, NP/PA office visits, and NP/PA walk-in clinics. The most recent 100, MD/DO office and 100 NP/PA walk-in referred patient charts were reviewed. There were only 71 NP/PA office and 43, MD/DO walk-in referrals to review.

Results: Teledermatologists agreed with the referring provider diagnosis 50% of the time for, MD/DO office, 29.8% (MD/DO walk-in), 33.8% (NP/PA office), and 34% (NP/PA walk-in). Diagnostic concordance was significantly higher for the eConsults from the, MD/DO office than the, MD/DO walk-in ($P = .021$) and NP/PA office ($P = .035$). Treatment changes were recommended as follows: 41% of the time for, MD/DO office, 73.2% (MD/DO walk-in), 47.9% (NP/PA office), and 64% (NP/PA walk-in). FTF visits were recommended in 45% of, MD/DO office referrals, 36% (MD/DO walk-in), 46.5% (NP/PA office), and 22% (NP/PA walk-in). FTF visits were recommended more after office visits than walk-in clinics ($P = .001$).

Conclusions: SAF teledermatology improves diagnosis and treatment and reduces barriers to specialty care. Overall, potential FTF visit reduction varied from 53%-78%, but was reduced more when teledermatology was used in walk-in settings. Expanding use of this program may improve wait times and maximize health care resources.

Commercial disclosure: None identified.

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Modulating Toll-like receptors and antimicrobial peptides in atopic dermatitis: Ex vivo and in vivo studies

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Methods: A) Ex vivo: human normal skin explants (HNSE) were treated by monoclonal antibody anti−Toll-like receptor 2 (MAB-aTLR2) or by an emulsion O/W containing a vegetal complex at 1% (OMBELLIFERAE extract, a lipid and an amide; C1%) or by its vehicle. At 1 h were added *S. aureus*' glycopeptides (SaGP). At 24 h were assessed (ELISA) the expressions of interleukin-8 (IL-8) and of human betadefensin-2 (hBD2). B) In vivo: same emulsion was tested in a pilot clinical trial in atopic dermatitis (AD) children, were assessed SCORAD1 and CLQI2.

Results: A) Ex vivo: untreated HNSE in contact with SaGP showed significant increase of IL-8 and hBD2 expressions vs control ($P < .001$). In HNSE pre-treated with MAB-aTLR-2 in contact with SaGP, both IL-8 and hBD2 expressions were significantly lower vs control ($P < .001$). HNSE pre-treated with the emulsion C 1% in contact with SaGPT, IL-8 expression was decreased and hBD2 was increased vs control ($P < .001$). B) In vivo: in a series of 38 AD children, the emulsion C1% applied bid significantly decreased SCORAD and improved CLQI at w4 versus baseline ($P < .001$).

Conclusions: In human skin explants in contact with *S. aureus*' glycopeptides, the expressions of IL-8 and hBD2 were increased and were linked to the activation of TLR2. Explants treated by an emulsion with a vegetal complex at 1% had a decreased IL-8 and increased hBD2 expressions. Same emulsion applied bid in a series of 38 children with atopic dermatitis, decreased significantly SCORAD and improved CLQI at week 4 compared with baseline.

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The role of interleukin-6 in anemia associated with hidradenitis suppurativa

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It is generally accepted that there is a high prevalence of anemia associated with hidradenitis suppurativa (HS). We recently reported a positive correlation between serum hepcidin, disease severity, and anemia. Our findings suggest chronic systemic inflammation may induce anemia of chronic disease (ACD) in HS. Upregulation of inflammatory cytokines, namely interleukin-6 (IL-6), has been implicated in ACD. Despite evidence of elevated IL-6 in both ACD and HS, IL-6 levels in patients with comorbid HS and ACD are not well defined. One hundred thirty-six patients at the Montefiore/Einstein HS Treatment Center were identified and enrolled in this IRB-approved retrospective chart review to investigate the relationship between IL-6, anemia, and disease severity. Anemia was defined as hemoglobin < 12.0 (females) or < 13.0 (males). Demographic and clinical differences between anemic and non-anemic patients were tested by chi-square and Mann-Whitney tests. The mean age was 36.7 ± 11.6; mean HS-PGA was 2.95 ± 1.35; 105 (77%) were female; and, 53 (39%) were anemic. Anemic and non-anemic patients were similar in age (36.6 vs 36.8, $P = .74$) and sex (74% vs 80% female, $P = .42$). Anemic patients had a higher HS-PGA relative to non-anemic patients (3.70 vs 2.47, $P < .0001$). Notably, anemic patients had significantly higher serum IL-6 levels compared with non-anemic patients (median [IQR]) (19.8 [5.47, 36.96] vs 4.6 [3.16, 8.09], $P < .0001$). This study demonstrates an association between elevated IL-6 levels and anemia in HS. In addition to functioning as a potential biomarker of disease severity, IL-6 may contribute to the systemic inflammation that leads to ACD in anemic HS patients.

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Comparison of ixekizumab and adalimumab in the treatment of nail psoriasis in psoriatic arthritis patients with moderate to severe psoriasis: 24-week results from a multicenter, randomized, open-label, rater-blinded study (SPIRIT-H2H)

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Objective: Nail psoriasis is common in patients with psoriatic arthritis (PsA) and plaque psoriasis (PsO), causing pain and impaired hand mobility. This analysis evaluated the efficacy of two biologic disease-modifying antirheumatic drugs (bDMARDs), ixekizumab and adalimumab, for treating nail psoriasis in patients with active PsA and moderate to severe PsO (Psoriasis Area and Severity Index score ≥12, static Physicians Global Assessment score ≥3 and body surface area involvement ≥10%).

Methods: SPIRIT-H2H was a randomised, open-label, rater-blinded study evaluating the efficacy and safety of ixekizumab versus adalimumab in adults with active PsA and PsO naïve to bDMARDs. This post hoc subgroup analysis examined the efficacy of both treatments in PsA patients with moderate to severe PsO and nail psoriasis (baseline Nail Psoriasis Severity Index (NAPSI) score ≥1). Differences in NAPSI scores between treatments (mixed models for repeated measurement), and the proportions of complete responders (NAPSI score 0; logistic regression model) were determined to 24 weeks.

Results: Baseline NAPSI scores were ≥ 1 in 75.5% of the analysis population receiving ixekizumab (37/49) and 80.4% receiving adalimumab (41/51), ≥16 in 56.8% and 58.5%, and ≥40 in 27.0% and 17.1%, respectively. NAPSI scores improved for both treatments throughout the study, with a numerically greater reduction from baseline (−20.7 vs −16.3, $P = .076$) and significantly greater proportion of complete responders (80.0% vs 52.5%; $P = .009$) with ixekizumab than adalimumab at week 24.

Conclusions: In this post hoc analysis, ixekizumab showed higher rates of complete resolution of nail involvement than adalimumab at week 24, confirming the established efficacy of ixekizumab in nail psoriasis.

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