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In-office administration improves the drug survival of ustekinumab for chronic plaque psoriasis compared with self-administration: A single-institution retrospective chart review

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Ustekinumab is an interleukin-12/23 inhibitor approved for treatment of chronic plaque psoriasis that is administered as a subcutaneous injection every 12 weeks. Ustekinumab can be self-administered or administered in-office depending on insurance coverage and patient preference. Previous studies have demonstrated that adherence to ustekinumab is superior when it is administered in-office; however, no studies have evaluated whether in-office administration improves ustekinumab's drug survival, a real-world surrogate for tolerability and efficacy. To evaluate whether in-office administration of ustekinumab improves drug survival, we performed a single institution retrospective chart review to identify patients receiving ustekinumab for psoriasis. Patients were excluded if they 1) were lost to follow-up, 2) initiated ustekinumab prior to being seen within our department, and/or 3) had received ustekinumab in-office and had self-administered it. We identified 380 eligible patients, 225 (59%) of whom received ustekinumab in-office. Patients receiving ustekinumab in-office were older and more likely to be biologic naïve than patients that self-administered ustekinumab. Rates of primary failure and adverse events leading to discontinuation were similar among the two groups. Kaplan-meier methodology was used to assess drug survival. Even when adjusting for age, biologic naivety, and other patient factors, in-office ustekinumab demonstrated superior drug survival compared with self-administered ustekinumab ($P = .034$) with an average quartile survival time of 56 months (95% CI 34 to +) for in-office ustekinumab versus 39 months for self-administered ustekinumab (95% CI 14-55). These findings suggest that in-office administration of ustekinumab may improve ustekinumab's survival. Presumably other similarly infrequently dosed biologics may benefit from in-office administration.

Commercial disclosure: None identified.

18191

Experience of using rituximab and corticosteroid combination therapy for bullous pemphigoid: A 9-year case series analysis

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Background: Bullous pemphigoid is the most common autoimmune bullous disease, with a mortality rate up to 13~38% due to increased susceptibility in the aging population, high prevalence of comorbidities, and the use of immunosuppressants. In the recent years, a few case series, including one precedent case series from our facility, have demonstrated an increased rate of complete remission, steroid-sparing effect and a favorable safety profile of rituximab as a treatment for bullous pemphigoid.

Objective: To compare the clinical outcomes of patients with bullous pemphigoid treated with or without combination rituximab therapy at a single academic center, and to determine the safety and efficacy of rituximab as a first-line treatment for moderate to severe bullous pemphigoid.

Methods and Results: Through medical chart review, 105 patients with bullous pemphigoid confirmed by pathology plus either DIF or IIF results, who had received at least 20 mg prednisolone daily during the year 2010~2018 were identified. Among them, 46 patients (2010~2018) were treated with steroid plus combination rituximab therapy and 59 patients (2013~2018) were treated with steroid without rituximab. The cumulative dosage of corticosteroid until the 1st, 3rd, 6th, and 12th months, the ratio and time to reaching clinical remission/relaspe, and the subsequent adverse outcomes including infection and mortality rates were presented and compared among the 2 groups to determine the safety and efficacy of this emerging therapeutic option.

Commercial disclosure: None identified.

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Dermatology tactile learning tool: Development and student evaluation of an interactive 3-dimensional skin lesion model for medical student education

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Introduction: Skin diseases account for 20% of visits to PCPs and many skin lesions are seen by non-dermatologists. Dermatologic instruction in medical education shows that less than 50% of medical students report being "skilled" in skin examination. We developed a tactile learning tool (TLT) to provide an interactive model of skin lesions for student education.

Methods: Three-dimensional models of common skin lesions were designed using CAD and casted into reproducible silicone model (Protogenic). The TLT was integrated into medical student dermatology curriculum. Students were anonymously surveyed regarding the impact of the TLT on 1) learning to describe skin lesions, 2) confidence describing lesions, 3) importance of the TLT for education, and 4) the TLT solidifying knowledge of lesions.

Results: Ninety-six of 184 (52%) students responded. 94.8% of students were satisfied with the TLT for learning to describe lesions (mean 4.49, SD 0.75). 85.4% were satisfied that the TLT improved ability to describe lesions (mean 4.25, SD 0.76). 82.3% reported the TLT was important for the education of medical students (mean 4.20, SD 0.83). 90.1% reported that the TLT was important in solidifying knowledge of lesions (mean 4.34, SD 0.68).

Discussion: The TLT provides hands-on opportunity to engage with dermatologic terminology and palpably reinforces key concepts in dermatology. This learning tool has potential to increase the knowledge of future physicians and result in better patient care. Limitations of this study include the small sample size and that the study was conducted at one institution over the course of one year.

Commercial disclosure: None identified.

18226

Laser and light therapies for the treatment of necrobiosis lipoidica

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Background: Necrobiosis lipoidica (NL) is a rare inflammatory granulomatous skin disorder involving collagen, elastic, and fiber degeneration. Multiple light and laser therapy modalities have been proposed and used in treatment of NL with variable outcomes and side effects.

Objective: To investigate the laser and light therapy treatments used for NL and evaluate the effectiveness and outcome of each treatment.

Methods: A review of the PubMed, Google Scholar, Medline, and Embase databases was conducted to search for studies containing clinical studies, pilot studies, and case reports that used laser and light therapies in treatment of NL. At least 2 reviewers reviewed titles and abstracts of published articles and performed data extraction based on the defined inclusion and exclusion criteria.

Results: Twenty-five studies met inclusion criteria. The light and laser therapies that were used in these studies included CO_2 laser, pulsed-dye laser, methyl aminolevulinate (MAL)—photodynamic therapy (PDT), aminolevulinic acid (ALA)—PDT, UVA1 phototherapy, and psoralen+UVA (PUVA). PUVA was identified as the modality with the most available evidence (7 studies), followed by MAL-PDT and ALA-PDT (5 studies each), pulsed dye laser and UVA1 (3 studies each), and lastly, CO_2 laser (2 studies) with variable efficacy and side-effects.

Conclusions: NL can be treated through multiple dermatologic light and laser therapies including: PUVA, ALA-PDT, MAL-PDT, pulsed-dye laser, UVA1, and CO_2 laser. However, a clear consensus on the preferred treatment is yet to be addressed. Each treatment option demonstrates both advantages and disadvantages that should be discussed with patients when selecting the treatment modality.

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