18479

Melasma: A systematic review of the systemic treatments

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Background: Melasma is a common disorder of pigmentation. Currently available treatment options for melasma include prevention of UV radiation, topical lightening agents, chemical peels, light-based and laser therapies. However, none have shown effective and sustained results, with incomplete clearance and frequent recurrences. There has been increasing interest recently in oral medications and dietary supplements in improving melasma.

Methods: Multiple databases were systematically searched for randomized clinical trials (RCTs) evaluating the use of systemic medications for the treatment of melasma alone or in combination with other treatments. Eligible studies reported at least one of the melasma outcome measures such as the Melasma Area and Severity Index (MASI), the modified Melasma Area and Severity Index (mMASI), or the melanin index.

Results: A total of 8 RCTs that met inclusion criteria have evaluated the following systemic agents: tranexamic acid, polypodium leucotomas extract, beta-carotenoid, melatonin and procyanidin. Tranexamic acid has demonstrated the greatest reduction in average MASI scores, with efficacy maintained at the 6-month mark in some studies. While polypodium leucotomas extract may be beneficial, its effectiveness has not been shown to be statistically significant. Beta-carotenoids, melatonin, and procyanidin appeared to have a modestly beneficial effect. Each of these agents were relatively to very well tolerated.

Conclusions: A few of the systemic agents studied may improve melasma and enhance the efficacy of topical anti-melasma treatments. Because the majority of these oral compounds have been shown to be efficacious, safe, and well tolerated, dermatologists may consider them in their armamentarium for the treatment of melasma.

Commercial disclosure: None identified.

18482

Dermatology case-based learning in undergraduate medical education

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Background: The instruction of dermatology is challenging in medical school given its large scope, heavy clinical nature, and limited space in undergraduate medical curricula. Case-based learning (CBL) is a facilitator-guided, student-centered, team-based inquiry approach to learning that is being integrated into a number of medical school curricula. Furthermore, CBLs, followed immediately by highly-directed questions, maximize student learning by optimizing knowledge solidification, problem solving, and critical thinking skills.

Methods: Mini-CBL cases were implemented in the pre-clerkship dermatology curriculum at the University of Toronto, providing second year medical students the opportunity to work-up cases in a virtual dermatology clinic. After navigating through four cases, students were presented with a series of questions on the morphology, diagnosis and management, which were later reviewed with a dermatologist or resident tutor. Evaluations were based on surveys and assessments of case responses.

Results: In total, 241 students and 23 tutors participated. All student and tutor surveys indicated responses averaging above 3.5 on a 5-point scale (where 5 indicated "strongly agree" with a positively phrased question). Student feedback was consistently positive and common themes included praise for realistic case design, clinical relevance, direct learning and interesting content. In addition, students demonstrated excellent command of the learning objectives as illustrated by CBL assignment scores ranging from 89% to 96% across all mini-CBL cases.

Conclusions: Directed mini case-based learning was positively received by the University of Toronto second year medical students in a pilot session, supporting their role as a novel learning modality in dermatology medical education.

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18494

Reflectance confocal microscopy features in cutaneous leishmaniasis

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Reflectance confocal microscopy (RCM) is a technique that allows in vivo visualization of skin structures at a nearly histologic resolution. To the best of our knowledge, only two cases of RCM of cutaneous leishmaniasis (CL) have been published. We present 2 patients with a histopathologic diagnosis of CL in whom we performed RCM in 3 lesions. The first case was a 49-year old woman presented with a red papule on her right cheek, that had lasted for 7 months. Dermoscopy showed erythema and central hyperkeratosis. The second case was a 63-year-old woman with 3 red papules on her left cheek lasting for 6 months. Dermoscopy showed generalized erythema, 'yellow tears' and vascular structures. In this latest case, first clinical diagnosis was cutaneous lupus or granulomatous rosacea. In both cases, MCR and skin biopsy were performed; in the second patient, in 2 of the 3 lesions. RCM (Vivascope 1500; Mavig, Munich, Germany) revealed similar features in both cases: a polymorphic inflammatory infiltrate with multinucleated cells and longitudinal vessels in the upper dermis. Particularly in the first case we observed central hyperkeratosis and follicular plugging and in the second case we observed hyperreflecting interwoven fibres forming roundish structures similar to one of the published cases. However, we did not observe brick-like structures described in the epidermis as reported by Alarcon et al. Although histology remains the gold standard for the diagnosis of cutaneous leishmaniasis, confocal microscopy can help us avoiding unnecessary biopsies, especially in locations such as the face.

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18501

Twenty patients with moderate to severe psoriasis succesfully treated with brodalumab after a failed treatment with secukinumab

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Psoriasis is a chronic inflammatory skin disease, associated with a range of co-morbidities, including metabolic and psychological disorders. Brodalumab is a human monoclonal antibody that antagonizes the interleukin (IL) 17 pathway by binding to human IL-17RA. The mechanism of action of brodalumab is unique because it inhibits the IL-17 receptor and not the IL-17A molecule itself like secukinumab and ixekizumab. IL-17RA binds IL-17A, IL-17C, IL17F, and IL-25 and is expressed in multiple tissues like vascular endothelial cells, peripheral T cells, B-cell lineages, fibroblasts, etc. We present 20 patients with moderate to severe psoriasis successfully treated with brodalumab after a failed treatment with secukinumab (16 patients with plaque psoriasis and 4 with palmoplantar pustulosis). Twelve of them had received secukinumab as first line therapy, whereas the rest had undergone of through at least one biologic therapy in the past. All patients had not achieved PASI-75 or PPPGA:0/1 after 12 weeks of therapy, so we switched to brodalumab. Results showed PASI-90, PASI-100, and PPPGA:0 scores in 20% and 80% and 100% of the patients respectively whereas 100% of patients had achieved sPGA 0 or 1 in week 12 of therapy with brodalumab. Brodalumab was more effective than secukinumab in the above patients. Is unknown how patients, who have failed treatment with anti−IL-17 agent respond to brodalumab treatment, but that may relate to the unique mechanism of the drug, that targets IL-17RA. Therefore, brodalumab may be a therapeutic option for psoriasis patients, who have failed other therapies, including other IL-17 antagonists. More data are needed.

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