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Gender proportions by region and age groups in atopic dermatitis

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Objective: To investigate the prevalence of female to male proportions by region and age groups in atopic dermatitis (AD).

Methods: A systematic review was performed of all published studies from inception until 2018 in PubMed, Embase, and Scopus. These studies analyzed the proportion of females and males who suffer from AD in the general population or community. Two authors performed a review of the study titles and/or abstracts for data extraction.

Results: 59 studies provided sufficient data to perform a systematic review. In all continents apart from Africa, AD is more prevalent in females. In Africa, studies reported a lower prevalence of females having AD (0.46, 0.41-0.50, $P = .021$). Pooled analysis, however, shows that there is an overall higher proportion of females (0.53) living with AD (95% CI 0.51-0.54, $P < .001$), and this is seen in both the adult and children population.

Limitations: There is heterogeneity among studies and the studies may be subject to publication bias.

Conclusions: Sex differences are shown in this study with females more commonly afflicted with AD, except in Africa. Beyond biological interest, this finding suggests the need to study underlying mechanisms driving this association that may influence treatment.

Commercial disclosure: None identified.

14342

Clearance of recalcitrant warts in a pediatric patient following administration of the nine-valent human papillomavirus vaccine

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Verruca vulgaris (common warts) are a benign neoplasm of skin and mucous membranes caused by human papillomavirus (HPV) that are especially common in school-aged children. Spontaneous resolution of warts within two years is common, but recalcitrant cases can cause considerable morbidity in pediatric and adult patients. Although many therapeutic options for warts exist, there is no definitive cure. Several cases of recalcitrant common wart clearance following use of the bivalent, quadrivalent, or 9-valent HPV vaccine have been described. We report the case of a 10-year old girl with persistent cutaneous warts lasting three years which resolved completely following 2 doses of the 9-valent HPV vaccine. No recurrence of warts was noted 9 months after clearance. To our knowledge, this is the first report of recalcitrant common wart clearance in an immunocompetent pediatric patient with the 9-valent vaccine. The mode of action for this therapy is presently unclear, but comparative homology studies of the virus's L1 capsid protein suggest the possibility of a cross protective effect. Interestingly, an age-dependent response to HPV vaccination has also been observed. Complete resolution is frequent in younger patients, while adult patients commonly experience incomplete clearance. Evidence shows that this effect may be partially due to hormonal changes during puberty. This case contributes to the growing body of evidence showing HPV vaccination to be a good alternative to other cutaneous wart treatments for pediatric patients and adds to our understanding of potential therapeutic use of the HPV vaccine.

Commercial disclosure: None identified.

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A novel topical body-firming moisturizer as a stand-alone treatment of sagging, crepey, and overall photodamaged skin

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Background: Chronologic aging and photoaging of body skin can result in skin sagging, crepiness, and photodamage. A topical body firming moisturizer (TBFM) was created to target aged body skin. Studies were performed to evaluate efficacy and tolerability of the TBFM.

Design. The EpiDermFT model was used to assess a patent-pending blend of ingredients in the TBFM on Collagen IV and Elastin production after 48 and 96 hours ($n = 3$). In addition, the TBFM's effect on *Staphylococcus aureus* and *Staphylococcus epidermidis* population using skin explants was studied after 48 hours ($n = 4$). A randomized, double-blind, split-body, placebo-controlled study was conducted to evaluate the TBFM when used twice daily for 12 weeks by subjects (40-60 years) with mild to moderate sagging, crepiness, and photodamage on the upper arms. Ten of these subjects participated in biopsy analysis. Analysis included efficacy and tolerability evaluation, ultrasound measurements, clinical photography, and self-assessment evaluation.

Results: The TBFM was shown to up-regulate the production of elastin and collagen IV ($P < .05$) and to regulate the proliferation of *S. aureus* and *S. epidermidis* bacteria. Efficacy evaluation showed the TBFM improved all skin parameters and outperformed the placebo moisturizer after 12 weeks ($P < .05$). Biopsy and ultrasound images illustrated an improvement in matrix proteins and skin density. Clinical photography demonstrated the TBFM was able to reduce sagging, crepey and photodamaged skin. The TBFM was tolerated and well perceived by subjects. Conclusion. The in vitro results combined with the in vivo results strongly suggest that the TBFM was effective and tolerable in improving sagging, crepey, and photodamaged skin.

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14401

When lidocaine isn't enough: The regular use of intravenous sedation and advanced practice anesthesia providers in a high-efficiency dermatologic surgery practice

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Intravenous (IV) sedation is an underutilized method of alleviating patient discomfort during dermatologic procedures. Certified nurse anesthetists (CRNA) are regularly employed in the outpatient setting by other specialties, such as plastic surgery and gastroenterology, however their use in dermatology has not been well reported. We present a safe, efficient, and effective model to use advanced practice anesthesia providers for regular IV sedation in the setting of a busy Mohs micrographic surgery practice. Most high efficiency Mohs micrographic surgery practices run several rooms at one time, moving from room to room for layers and repairs. We employ a full time CRNA who offers IV sedation to patients who need it and have a driver available. At the beginning of each case but before local anesthesia is given, an IV is placed. A combination of IV midazolam, and sometimes fentanyl or ketamine, is administered before lidocaine injections. We have observed the benefits of this technique to include reduced anxiety and pain with local anesthesia, reduced blood pressure and heart rate making intraoperative bleeding less likely, and overall increased patient comfort. The fast onset of the IV medication, coupled with expert anesthesia monitoring thoughout the case, makes the use of this process efficient and safe. After 2 years of full-time use we have had no reported adverse events to date using this workflow.

Commercial disclosure: None identified.