

16669

### Comparison of the cotton swab method versus the scrape-and-pluck technique in diagnosing tinea capitis



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Tinea capitis is a common, easily treatable dermatophyte infection of the scalp predominantly found in children. A variety of techniques to obtain fungal culture specimens from the hair and scalp have been described in the literature including a scrape-and-pluck, cotton swab, toothbrush, hairbrush, tape and cytobrush methods. Previous studies have aimed to assess the accuracy of various fungal culture techniques; however, no studies have directly compared the cotton swab method to the traditional scrape-and-pluck methods. The aim of this study was to directly compare the cotton swab technique, an inexpensive and less invasive and painful method, and the scrape-and-pluck method for diagnosing tinea capitis. In this prospective IRB-approved study, children aged 6 months to 18 years seen in dermatology clinic with scalp findings suspicious for tinea capitis were enrolled. Each subject had two samples collected using both methods, and samples were sent for assessment of culture and speciation. Nine patients met inclusion criteria with a mean age of 6.8 years; seven (77.8%) were female. Associated symptoms included pruritus (100%), scaling (100%), posterior cervical lymphadenopathy (66.7%), hair loss (55.6%), and erythema (22.2%). Five patients had positive cultures for both scrape-and-pluck and swab methods; four had both negative. Our findings are notable for one hundred percent concordance between the two methods in all patients. Enrollment is still ongoing but preliminary results are promising in suggesting that the cotton swab method is as efficacious as the scrape-and-pluck method.

Commercial disclosure: None identified.

16707

### Cytokines and race in hidradenitis suppurativa



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**Background:** The immunopathogenesis of hidradenitis suppurativa (HS) involves an exaggerated response to ruptured follicles. T-cells and neutrophils are attracted to follicles and produce IL-12 and IL-23 leading to keratinocyte proliferation and cytokine production. Aberrant cytokine expression has been demonstrated in skin and serum of HS patients, specifically increased serum IL-6, TNF- $\alpha$ , IL-17, and IL-1 $\beta$ , and IL-12, IL-23, IL-17, and TNF- $\alpha$  in skin, among others. This study aimed to characterize cytokine profiles in HS.

**Methods:** Adults with HS and healthy age-, sex-, and race-matched controls were recruited from a tertiary care dermatology clinic in New Orleans, Louisiana. Demographics and blood samples were collected. Twenty-five cytokines were quantified using a multiplex assay and analyzed using parametric and nonparametric analyses.

**Results:** In total, 27 patients with HS and 9 controls were included. There were no statistical differences between the groups based on sex, age, race, or body mass index. No differences were found in cytokine levels for HS patients versus controls. On subgroup analysis, 6 cytokines were lower in African-American HS patients compared with other races: TNF- $\alpha$  ( $P = .01$ ), IL-22 ( $P = .05$ ), IL-23 ( $P = .01$ ), IL-17F ( $P = .01$ ), IL-27 ( $P = .05$ ), and IL-10 ( $P = .03$ ).

**Conclusions:** African-American race has been associated with increased HS prevalence and treatment resistance. Risk of other fibroproliferative disorders in African-Americans, thought to be due to gene selection providing protection against helminth infections, has been well demonstrated. Whether variation in cytokine levels among races shown in this study can be explained by genetics, or ultimately contributes to variation in outcomes is yet to be determined.

Commercial disclosure: None identified.

16713

### Relationship between socioeconomic status and geographic access to isotretinoin



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Isotretinoin is an effective treatment for acne and its prescription requires iPledge registration of the patient, physician, and pharmacy. The purpose of this cross-sectional study is to evaluate the number of iPledge participating pharmacies in the District of Columbia (DC) and to analyze their geographic distribution. Active outpatient pharmacies in DC were retrieved from DC.gov. iPledge-participating pharmacies were identified through the iPledge website. In addition, all pharmacies were surveyed via phone to verify their iPledge registration status. DC is geographically divided into eight wards and demographic information for each ward was obtained from the 2013-2017 American Community Survey Estimates. 150 active outpatient pharmacies were identified in DC. There was a 98% response rate for the survey. We identified 11 pharmacies which were not listed on iPledge as participating pharmacies but stated active registration in the survey. The relationships between iPledge pharmacy density and various socioeconomic and demographic characteristics of each ward was evaluated using Spearman correlation coefficients. iPledge pharmacy density is strongly positively associated with household income ( $r = 0.952$ ,  $P = .0003$ ) and strongly negatively associated with proportion of individuals with public insurance ( $r = -0.976$ ,  $P < .0001$ ) and proportion of non-White population ( $r = -0.929$ ,  $P = .0009$ ). Significant associations were not found between iPledge pharmacy density and ward population size. This study demonstrates the presence of spatial heterogeneity in iPledge participating pharmacies, with a higher density in areas with greater white population and higher SES population. These pharmacy deserts may be exacerbating the barriers to access of isotretinoin and further promoting health care disparities.

Commercial disclosure: None identified.

16714

### Association of psoriasis with migraine: A systemic review and meta-analysis



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**Background:** Psoriasis and migraine are common diseases that potentially shared the same pathophysiologic mechanisms and cause increased cardiovascular risks. However, the association between the psoriasis and migraine has been unclear.

**Objective:** We sought to assess the link between the psoriasis and migraine.

**Methods:** We conducted a systemic review and meta-analysis and searched Medline, Embase, and Cochrane Central for relevant studies from inception to May 12, 2019. Cross-sectional or Cohort studies that examined either the odds or risk of migraine in patients with psoriasis were included. Cross-sectional and cohort studies were analyzed separately and random-effect model meta-analysis was conducted. A subgroup analysis was performed on psoriatic arthritis. We used the Newcastle-Ottawa scale to assess the risk of bias of included trials.

**Results:** A total of 3 cross-section studies and 2 cohort studies with 6341719 study participants were included. Significant associations were found between the psoriasis and migraine, giving odds ratio 1.87 with confidence interval (CI) 1.27-2.73 and hazard ratio 1.31 with CI 1.04-1.64.

**Limitations:** We were unable to distinguish different types of psoriasis and migraine.

**Conclusions:** These findings suggested that psoriasis is related to migraine. Moreover, there is a greater risk of migraine in patients with psoriatic arthritis. Further studies are warranted to see if the migraine modifies the risk of cardiovascular disease in psoriasis patients.

Commercial disclosure: None identified.