

Histologically aggressive basal cell carcinoma is more common on the ear and nose



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Histologic classification of basal cell carcinoma (BCC) is essential for the determination of the tumor type and its biological behavior. High risk types of BCC, such as morpheiform, infiltrative, and sclerotic, have a greater likelihood of subclinical spread, aggressive local behavior, and an increased probability of local recurrences and incomplete excision. Thus, it is important for the clinician to have an understanding of which areas of the body are more likely to have these histologically aggressive BCCs. We hypothesize that the ear and nose are the most probable sites for histologically aggressive BCCs. Information was collected for all the biopsy proven BCCs from the University of Texas Medical Branch (UTMB) from August 2011 to September 2016 that included age, gender, location, specimen size, and tumor subtype. During this time period, there were 1504 BCCs in either the nasal or periauricular areas with 3.7% of the nasal BCCs and 6.3% of the periauricular BCCs classified as histologically aggressive (ie, morpheiform, infiltrative, and sclerotic). Moreover, these high-risk types of BCC were overrepresented in the nasal and periauricular areas as compared to the rest of the body and had a male preponderance. For example, of the 242 histologically aggressive BCCs from all body areas during this time period, 29.3% of these located on either the nasal or periauricular areas and 71.4% of these were in males. These results give evidence that histologically aggressive BCCs are more common on the ears and nose, and although the nasal and periauricular areas only comprise approximately 2% of the total body surface area, they are more likely to be affected by histologically aggressive BCCs relative to other areas of the body. Knowledge of this information will help guide a physician's clinical judgment in ordering biopsies and providing appropriate treatment.

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Histopathologic features of ophiasis-type alopecia areata



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Background: Alopecia areata (AA) is a chronic, organ-specific autoimmune disease, mediated by T cells, which affects hair follicles. Ophiasis is a type of alopecia areata identified as a turban or snake-like pattern of hair loss, affecting a band-like area at the occipital and temporal scalp regions. It is often refractory to conventional treatments and has a less favorable prognosis.

Objective: To establish the histologic features of ophiasis-type alopecia areata in scalp biopsy specimens and sought to correlate between histopathologic features and clinical prognosis. **Method:** The pathology archives of Kyung Hee University Hospital at Gang-dong were searched for the term 'ophiasis' from the period of 2006 to 2016 with sections suitable for review. 5-millimeter punch biopsy specimens were taken from the scalp in marginal area of hair loss and the specimens were sectioned by Tyler technique.

Results: Total 22 cases were included in this study and the specimens are closely reviewed. Quantification of the follicular counts revealed development of more miniaturized hairs and prominent disappearance of terminal hairs. Peribulbar lymphocytic infiltrate and eosinophilic infiltrate were observed 12 cases (56%) and 8 cases (36%), respectively. The mean miniaturized hair counts were 6.6 hairs and anagen/telogen percentage was 14/86%, relatively very low ratio. Total hair follicle counts and follicular units decreased slightly with 12.4 hairs and 3 units, respectively. Lymphocytic infiltration around bulge area was observed in 10 cases (45%) **Conclusion:** Generalized decrease of terminal hairs and increase of miniaturized hairs were observed in ophiasis as in chronic AA. Forty-five percent of cases (10 cases) of lymphocytic infiltration around bulge area is relatively high ratio than other type AA (20%). These histologic characteristics of specimens can explain the causes of poor prognosis of ophiasis-type AA. Moreover, we can predict the progression of other type AA through the histologic feature of lymphocytic infiltration around bulge area inversely.

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HLA-B sequencing in patients with Stevens–Johnson syndrome and toxic epidermal necrolysis



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Introduction: Stevens–Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are severe cutaneous adverse drug reactions (ADRs) with significant morbidity and mortality. Though the exact pathogenesis remains unclear, targeted genomic analysis has identified relationships with certain immunologic markers and enzymes associated with drug metabolism. HLA-B types in particular have been associated with ADRs; however, to date these associations exist for only a few specific drugs and patient populations. We sought to examine whether certain HLA-B alleles were present at an increased frequency in patients with SJS/TEN and identify potential associations with inciting drugs.

Methods: We conducted a retrospective study of SJS/TEN patients admitted to the San Antonio Military Medical Center (SAMMC) Burn Unit from 2001 to 2015. Targeted sequencing of the HLA-B gene was performed on 28 formalin-fixed paraffin-embedded (FFPE) skin biopsy samples from cases with a known offending drug. Typically, HLA-B gene alleles are determined by sequencing exons 2 and 3 of the gene, using primers that anneal in a nonvariable region of the introns. This was not possible with FFPE samples due to fragmentation of DNA; therefore, we used commercial primers designed from the least variable areas of the exons possible. Using the Sanger sequencing method, we identified the potential HLA alleles present in the FFPE samples.

Results and Conclusion: Multiple potential HLA-B alleles were identified in most of our specimens. This highlights the limitations of DNA sequencing using FFPE samples, as the fragments of DNA and nonoverlapping sequences limited our ability to determine an exact HLA type for every specimen. Based on these results, we were unable to determine statistically significant associations regarding frequency of HLA type or inciting drugs. However, our data show HLA-B*44 as a potential allele in 9 of the 28 samples, including 5 of 10 cases associated with Bactrim. This is consistent with prior reports of HLA-B*44 associated with SJS/TEN due to sulfonamides and SJS/TEN with severe ocular complications. To further investigate potential genetic risk factors for SJS/TEN, we are currently enrolling patients in a prospective study using whole genome sequencing and transcriptome studies to examine epigenetic changes during ADRs. A secondary goal is to create a tissue repository at the Uniformed Services University to aid in future studies examining ADRs.

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Honey and wound healing



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Background: Complementary and alternative medicine (CAM) is loosely defined as any healing practice "that does not fall within the realm of conventional medicine" (Dorai, 2012). A 2010 report cited that 82% of surveyed patients had used CAM in the previous year for skin problems and 78% of respondents felt that physicians should incorporate CAM into their treatment plans (Barbosa and Kalaaji 2014). Wound care may be an opportune place for intervention. Current wound care modalities are limited, dated, and often expensive. Complementary and alternative medicine (CAM), and honey specifically, may be able to provide sustainable solutions.

Objective: To systematically present the scientific literature on honey and wound healing in order to expand the current repertoire of clinically and cost effective options available to physicians and patients.

Methods: A comprehensive PubMed search was performed on wound healing and honey.

Results: Honey is an amalgamation of compounds found to be beneficial in wound healing. Properties include hyperosmolarity, acidity, and steady hydrogen peroxide generation. These confer honey antimicrobial, antioxidant, anti-inflammatory, and overall healing characteristics. In our review, a total of 207 studies were included in the analysis. Of those, 181 (of 207, 87%) endorsed a beneficial role of honey in wound healing. Of these, 18 (of 181, 10%) were given a level of evidence grade 1, 51 (of 181, 28%) were graded a 2, 10 (of 181, 6%) were graded a 3, 29 (of 181, 16%) were graded a 4, and 72 (of 181, 40%) were graded a 5. Ten studies (of 207, 5%) reported a negative effect of honey on wound healing, 2 of which were graded a level 1 (2/10, 20%), 2 of which were graded a 2 (2/10, 20%), and 6 of which were graded a level 5 (6/10, 60%). Twelve studies (of 207, 6%) reported an indeterminate effect of honey on wound healing. Nine of these studies (9/12, 75%) were a level of evidence grade 2, while 3 (of 9, 33%) were a level of evidence grade 5.

Conclusion: The literature strongly supports honey's benefits in wound healing, although the majority of studies are methodologically flawed. Prior to becoming accepted into mainstream practice, additional high quality prospective studies are indicated.

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