



DERMA TODAY

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Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "**Derma Today**" which contains latest and interesting news in the field of Dermatology.

This issue contains:

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2. The Relationship between Male Pattern Hair Loss and Sugar-Sweetened Beverages
3. A cross sectional study on relationship between the serum vitamin D levels in psoriasis and acne
4. A Case Report of Atypical Linear Atrophoderma of Moulin Involving Increased Immunoglobulin M

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Looking forward to your valuable feedback.

Best Regards,

Medical Team, Micro Labs Limited.



An Observational Study On Mortality and Causes of Death in Patients with Cutaneous Disorders

Introduction:

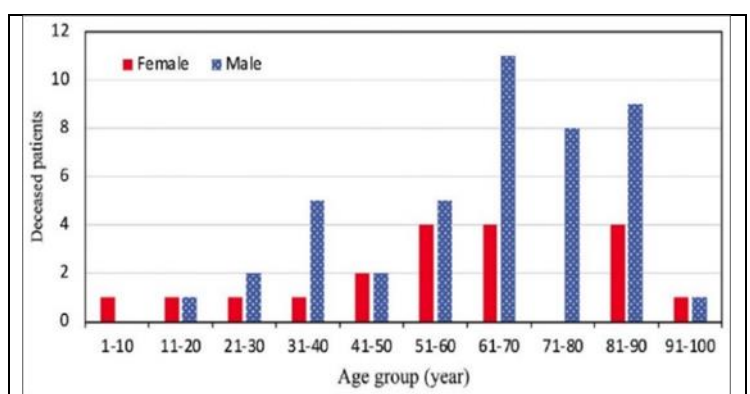
The Global Burden of Disease (GBD), a panel of more than 1,000 experts from different countries of the world, investigated global disability and mortality due to skin disease. For diseases, injuries, and risk factors, GBD 2013 gives disability and mortality measures that are stratified by age, sex, region, and time ⁽¹⁾. The review of pattern of mortality rates in dermatologic disease facilitates the implementation of trends that lower dermatologic disease mortality rates and contributes to improved patient care ⁽²⁾.

Methods:

A retrospective review of the medical records of patients who passed away due to dermatologic diseases between March 2008 and February 2020 was carried out. Patients' mortality rates from cutaneous diseases were tracked using medical certifications of cause of death records. Electronic medical records of deceased individuals whose death was caused by dermatologic illness were used to retrieve the clinical information, test results, and prescriptions. Version 22.0 of SPSS, a statistical program, was used to analyse the data.

Results:

In this study 2810 patients with dermatologic conditions were admitted to the hospital, in that 63 patients were lost their lives. 2.24% is the mortality rate of patients with cutaneous disease. Of the 63 patients who died 30.15% (n = 19) were female and 69.84% (n = 44) were male. The most maximum number of mortality (n = 15) happened in the age belonging to 61-70 years, representing 23.8% of total deaths, trailed by 13 deaths (20.63%) in the age group of 81-90 years. The low number of mortalities was viewed as in the age group <10 years. The most



Number of deceased patients by age and sex

common cause of death was cutaneous malignancies (34 instances, or 53.96%), followed by drug reactions, immunobullous/inflammatory dermatosis, and other dermatoses, which were responsible for 15 (23.8%), 8 (12.69%), and 6 (9.52%) fatalities, respectively. Squamous cell carcinoma (SCC) was the most lethal of the skin cancers, causing 16 fatalities (16/34, 47.05%)



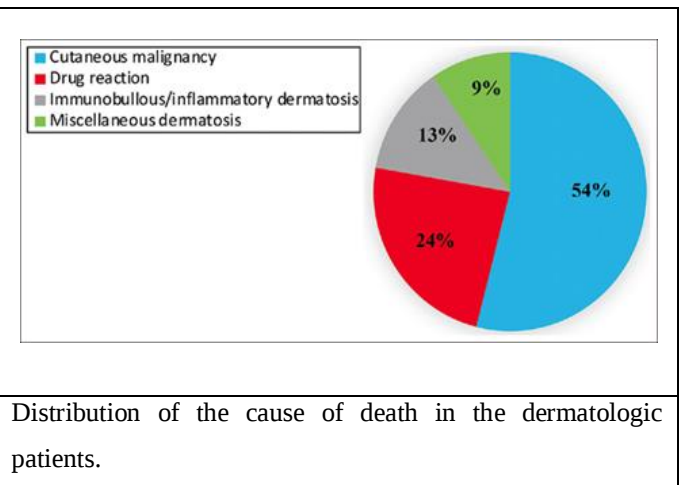
followed by melanoma (12 cases, 35.29%). TEN (Toxic epidermal necrolysis) was the most acquired drug reaction followed by SJS (Stevens-Johnson syndrome).

Discussion:

Comparing the skin results as DALYs (disability-adjusted life years) or YLDs (years lived with disability) with the 158 disease and injury categories at level 3 of the GBD 2013 hierarchy demonstrates the significance of the skin disease global burden. Burden from skin diseases (41.0 million DALYs) ranks behind iron deficiency anaemia (43.7million DALYs), tuberculosis (49.8million DALYs), and sense organ diseases (54.4 million DALYs) ⁽¹⁾.

Men were found to have about 80% of skin cancers, with a 4 times higher incidence rate than women. Malignancies of the skin accounted for the majority of deaths. The most common skin cancers were melanoma and Kaposi sarcoma. Keratinocyte carcinoma-related deaths are rising. Comparing the previous studies conducted by Lewis K.G et al and Wu W et al deaths

caused by KC have decreased since 2000. The KC mortality rate decreased by 17% between 1979 and 2000, before increasing by 44% between 2000 and 2017^(2,3). Drug reactions were the second most common cause of death. Antibiotics were the most common etiologic agents. In patients with SCC (Squamous cell carcinoma) (31.25%), BCC (Basal cell carcinoma) (100%), TEN (50%), and pemphigus vulgaris (66.66%), sepsis was the leading cause of death ⁽²⁾.



Conclusion:

The mortality rate in the study was 2.24% and it was more than two fold higher in men than women (69.8% vs. 30.1%, respectively). Cutaneous malignancies were the most frequent cause of death followed by drug reactions. The most common immediate cause of death was sepsis.

Men have a dermal mortality rate that is twice as high as women and cutaneous malignancies, followed by drug reactions, were the most common causes of death.



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The Relationship between Male Pattern Hair Loss and Sugar-Sweetened Beverages

Introduction:

The excessive intake of beverages sweetened with sugar causes a threat to public health around the world⁽¹⁾. About 80% of men over the age of 80 suffer from male-pattern baldness (MPB), which is characterized by progressive hair loss from the frontal and vertex scalps. The genetic predisposition of an individual and male sex hormones are the primary etiological factors⁽²⁾. Male pattern hair loss (MPHL), can be caused by a different factor, including smoking, anxiety, sleeping patterns, age, body mass index (BMI, past medical history, physical activity, nutrition, and genetics. The Western diet containing a lot of added sugar, may cause hair loss by starting polyol pathways⁽³⁾.

Methods:

A crosssectional study was conducted on 1028 male individuals aged between 18-45 years (n = 1951) involving a self-revealed web-based review for information. By using e-questionnaire, collected the data of sociodemographic, hair status, dietary intake, lifestyle, and psychological factor and explored the associations between the amount/frequency of SSB consumption and MPHL by using a binary logistic regression model. Calculated BMI by dividing body weight (kg) by the square of body height in meters (m²) According to the weight status of individuals, obesity, overweight, normal weight, and underweight are classified as BMI ≥ 28 , 24–27.9, 18.5–23.9, and ≤ 18.5 kg/m², respectively.

Results:

The study includes 1028 male subjects including 436 (42.4%) normal subjects and 592 (57.6%) subjects with MPHL. The mean age of the members was 27.8 years. Almost 50% of the members (n = 459, 44.6%) expressed that they consumed SSBs at least a few times every day, 25.1% consumed SSBs 4-7 times each week, and 18.5% consumed SSBs 1-3 times each week. Over 10% of members had not consumed SSBs over the month. The MPHL group consumed 4293ml of SSB per week, significantly more than the normal group (2513 ml). The MPHL group

Characteristics	Overall (n = 1028)	BASP		p-Value
		Normal	MPHL	
SSB intake frequency, n (%)				<0.001
Never	121 (11.8)	73 (60.3)	48 (39.7)	
1-3 times per week	190 (18.5)	103 (54.2)	87 (45.8)	
4-7 times per week	258 (25.1)	117 (45.3)	141 (54.7)	
more than 7 times per week	459 (44.6)	143 (31.2)	316 (68.8)	
SSB intake amount, n (%) ^a				<0.001
Never	121 (11.8)	73 (60.3)	48 (39.7)	
Small amount	368 (35.8)	169 (45.9)	199 (54.1)	
Middle amount	290 (28.2)	119 (41.0)	171 (59.0)	
Large amount	249 (24.2)	75 (30.1)	174 (69.9)	

^a SSB intake amount included 4 levels: Never = 0 mL/week; Small amount = no more than 1500 mL/week; Middle amount = 1500–3000 mL/week; Large amount = more than 3500 mL/week.

Sugar-sweetened beverages (SSBs) consumption in past month among participants with and without male pattern hair loss (MPHL).
BASP (Basic and Special scale)



consumed more SSBs than the normal group. In the end, the study found that a higher risk of MPHL is associated with high SSB consumption among the 1028 participants.

Discussion:

The purpose of this study is to find the connection between the MPHL and SSB consumption. The study found that the studied population had a high level of SSB consumption, and this consumption was linked to a higher risk of MPHL. In contrast, a study conducted by Yanhua Yi et al shows that, sugary drinks may be a protective factor to Androgenetic Alopecia^(3,4). Current study shows that, there is a significant link between MPHL and high SSB consumption. The possible mechanism is the polyol pathway is triggered by the high affinity for aldose reductase created by the high sugar content of SSBs, which raises serum glucose levels. The use of glucose in the polyol pathway makes less glucose available to the outer root sheath keratinocytes of hair follicles, and the depletion of ATP and phosphate also slows down gluconeogenesis. Keratinocytes in the outer root sheath that lack energy causes MPHL. Other psychological factors, such as post-traumatic stress disorder (PTSD), may influence hair loss in addition to anxiety⁽³⁾.

Conclusion:

The study concludes that the high Sugar-Sweetened Beverages consumption is associated with a higher risk of MPHL. Study recommends to reduce high SSB consumption to prevent adverse health effects caused by SSB's.

Drinking a lot of sugar-sweetened beverages raises the risk male pattern hair loss and high sugar sweetened beverages consumption should be reduced to avoid sugar sweetened beverages related negative health effects.

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A Cross Sectional Study On Relationship Between the Serum Vitamin D Levels in Psoriasis and Acne

Introduction:

Psoriasis is a chronic inflammatory skin disease mediated by the immune system. Hyper proliferation of epidermal keratinocytes and an inflammatory cellular infiltrate in both the dermis and epidermis are hallmarks of psoriasis lesions⁽¹⁾. Acne vulgaris, is the most common skin disorder globally by affecting Approximately 9.4% of the world's population. It is a chronic inflammatory disease and is clinically characterized by seborrhoea, comedones, papules, pustules and various degrees of scarring⁽²⁾. Vitamin D regulates the immune system and sebocyte and keratinocyte proliferation and differentiation. Additionally, it has antioxidant and anticomedogenic properties and has its role in treatment option for psoriasis and acne as a result, a lack of vitamin D may play a role in the psoriasis and acne. The study objective is to evaluate the relationship between the degrees of vitamin D in psoriasis and acne patients, ^(1,2).

Methods:

This was a Cross-sectional comparative study. 350 people were chosen through non-random convenient sampling, and 323 of them gave their informed consent. The total human subjects for the study were 323 and were isolated into 2 groups A (acne) and B (psoriasis). 144 members in the group A were between age of 16 to 40 with mean age of 25.63. While 184 members in the group B were in the age of 12-75 with mean age of 39.9. Blood samples were taken from each participant, who had no prior history of hypertension, diabetes mellitus, or renal or hepatic disease. These participants were then tested for normal RFTs and LFTs. Blood samples were obtained to quantify serum 25(OH)D levels of vitamin D using the immunoenzyme assessment (25(OH)-Vitamin D) method using an ELISA.

Results:

The results of a one paired t-test confirms that there is a significant difference between the mean Vitamin D level for psoriasis and acne (M=21.83, SD=8.5). It was found that there was a direct and non-negligible negative correlation ($r=0.13$, $p=0.05$) between the serum levels of Vitamin D in patients with acne and psoriasis. Additionally, there was no significant correlation between acne patients' Vitamin D serum levels ($r=1$, $p=0.05$).

Correlation of vitamin D level

Correlations		Vitamin D level in acne	Vitamin D level in psoriasis
Vitamin D level in acne	Pearson Correlation	1	-0.139
	Sig. (1-tailed)		0.050
	N	140	140
Vitamin D level in psoriasis	Pearson Correlation	-0.139	1
	Sig. (1-tailed)	0.050	
	N	140	183



Discussion:

The innate and adaptive immune systems, calcium metabolism and homeostasis, are regulated by vitamin D. It is said to be linked to numerous diseases, including inflammatory bowel disease, systemic lupus erythematosus, rheumatoid arthritis, and some dermatological conditions like psoriasis, vitiligo, alopecia areata, and atopic dermatitis⁽²⁾.

Vitamin D exerts its anti-inflammatory effects through a variety of biological mechanisms. These mechanisms support the theory of the immune-regulatory function and the anti-inflammatory effects of it in acne patients⁽³⁾. Psoriasis and acne are two skin conditions that have a significant impact on a number of metabolic aspects like skin-derived synthesis and activation of vitamin D. Vitamin D absorption is not affected to acne but has its effect on psoriasis, which directly affects keratinocyte proliferation and thus disrupts the formation and activation of vitamin D. Acne does not affect keratinocyte proliferation until it is severe. Psoriatic patients are more likely than acne patients to suffer from vitamin D deficiency⁽⁴⁾.

Conclusion:

Psoriasis is strongly linked to vitamin D deficiency, while acne significantly not. Unlike acne, which does not directly cause vitamin D deficiency, psoriasis patients are more likely to develop vitamin D deficiency due to the greater area of skin involvement. This finding may be beneficial to acne and psoriasis treatments. Vitamin D taken orally or topically, depending on the recommended dosage, provides better results because there is a possibility of vitamin D deficiency.

Psoriasis patients are more likely to develop vitamin D deficiency because of the greater area of skin involvement, whereas acne does not directly cause vitamin D deficiency.

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A Case Report of Atypical Linear Atrophoderma of Moulin Involving Increased Immunoglobulin M

Introduction:

Linear atrophoderma of Moulin (LAM) is a rare skin condition characterized by the hyperpigmented and atrophic unilateral band-like dermatoses that follow the Blaschko line ⁽¹⁾. Moulin was the first to describe LAM in five patients in 1992 with similar features who were diagnosed with atrophoderma of Moulin. LAM mostly acquired to the trunk and limbs and it can cause rarely to the head and neck ⁽²⁾. It is more common among women and young adults. LAM, a type of dermal atrophy has no known cause. ⁽³⁾.

Case Report:

The patient was a 29-year-old female treated on October 04, 2021. The patient complained that the lesions initially affected the left midsection and mid-region without apparent cause a long time ago, and that the light brown patches continued to spread to the left buttocks and lower limbs without causing any undeniable discomfort other than a significant psychological burden. She refused medical treatment because the lesions did not develop any other conditions, such as sclerosis, during this time. The patient never had any



Brownish patches distributed along the Blaschko line on the left side of the back, waist, buttocks and lower limbs, partially fused into pieces, with no hard touch and unclear boundary, showing obvious unilateral manifestation

blood disorders or immunodeficiency conditions before. On the left lower back, buttocks, and lower limbs, a dermatopathological examination revealed banded brown patches that ran along the Blaschko lines and were partially fused. When palpated, the skin surface was smooth with mild atrophy, the boundary was unclear, and the skin was not hard. Positive antinuclear antibody (ANA, 1:320, nucleolar type) and elevated immunoglobulin M (3.47 g/L) were the results of laboratory tests. The results of the other lab tests were normal.



The lesion on the left lower extremity was taken for pathological biopsy, which showed that the epidermal change disappeared, the pigment particles in the basal layer were obvious, numerous lymphocytes penetrated the dermis, and the elastic fibres and collagen fibres coloured normally. The diagnosis of linear atrophoderma of Moulin was made for this patient based on the clinical signs and the results of the investigation. After four months of treatment with oral snow glucoside tablet and topical snow glucoside ointment, the patient did not show any significant improvement.

Discussion:

A case report of female patient of 29-year-old with persistent brown patches distributed along the Blaschko lines on her left lower back, buttocks, and lower limbs, along with positive antinuclear antibodies (ANA, 1:320, nucleolar type) and elevated immunoglobulin M (3.47 g/L). The following diagnostic criteria for LAM can be added, LAM can start in middle age, Skin lesions that spread along the Blaschko lines can appear on the head and neck., and Histopathology can reveal alterations in collagen and inflammation. Linear scleroderma and progressive idiopathic atrophy (PIA) must be distinguished from LAM. Similar to LAM, PIA skin lesions appear as pigmented atrophic patches but do not follow the Blaschko lines. Some believe that LAM is a type of PIA⁽¹⁾. The primary information about LAM has been expanded since 1992 by new findings and an increasing number of LAM cases, including LAM exists as an inflammatory or non-inflammatory variant, LAM, morphea, and atrophoderma of Pasini and Pierini share numerous clinical and histological similarities⁽⁴⁾. Currently there is no proper treatment for LAM. In sclerotic cases, treatment with systemic steroids, antimalarial, calcitriol, and phototherapy has been tried. Histopathology is generally not demonstrative. Early injuries have moderate chronic inflammatory cells. This finding isn't found in the late period⁽³⁾.

Conclusion:

LAM is a dermatosis that does not cause changes to the dermis. However, in some cases, it does cause changes to the dermis and can result in numerous lymphocyte infiltrates in the dermis. This highlights the significance of the evolution of the clinical pathology. While persistent inflammation and elevated IgM are uncommon in LAM, the inflammatory stage may be common, and further investigation and discussion are needed to determine whether there is a correlation between the two or whether they influence the progression of LAM.

Linear atrophoderma of Moulin (LAM), is a rare acquired skin disease. LAM is characterized by hyper pigmented and atrophic unilateral band-like or linear dermatoses of variable size following the Blaschko lines.



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