Poster 1

UNDERSTANDING DERMATOLOGIC CONCERNS AFFECTING PERSONS IN AN INNER-CITY CLINIC

Saima Ali, Clifford Neil Kitson

Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada.

BACKGROUND: The Vancouver inner-city neighbourhood is comprised of over 19,000 people with a unique demographic. This community has a disproportionately high number of residents Indigenous peoples and people of colour, many living without fixed address, defined as living outside or in a shelter. The prevalence of dermatologic conditions in inner city populations ranges from 16-50%, however there is a paucity of research on how this compares to the general population.

OBJECTIVE: To determine the prevalence of dermatologic disease in an inner-city clinic in Vancouver and how these rates compare to similar populations and to the general Canadian population.

METHODS: A retrospective medical record review was conducted to tabulate the number of ICD9 diagnostic codes that correspond to specific dermatologic diseases seen in patients at an inner-city clinic the prevalence of disease was compared to similar population statistics and the Canadian population.

RESULTS: In the process of completion.

CONCLUSION: This study will provide insight on the prevalence of dermatologic disease in an inner-city dermatology clinic that serves as the primary site of care for this population. With this knowledge specific teaching can be given to primary care providers serving this population to enhance dermatologic care in this community.

Category: Exploratory

Poster 2

ORAL TRANEXAMIC ACID TREATMENT LONGER THAN 6 MONTHS FOR MELASMA PATIENTS: A RETROSPECTIVE CASE SERIES

Kaitlyn Lam MD[1], Danny Mansour MD[1], Allison Sutton MD[1]

[1]Department of Dermatology and Skin Sciences, University of British Columbia, Vancouver, Canada

Introduction: Melasma is a chronic acquired disorder of primarily facial hyperpigmentation that can cause significant quality of life impairment. Long-term treatment options remain limited. Oral tranexamic acid (TXA), an antifibrinolytic, has been found to be an effective off-label treatment for melasma. Concern regarding possible increased thrombotic risk and lack of long-term safety data often limits its duration of use. We hypothesized that long-term use of oral TXA for melasma is safe.

Methods: A retrospective chart review was performed of patients ≥18 who were treated with oral TXA for melasma for ≥ 6 months at a local dermatologic centre. Outcome measures included patient characteristics such as age, sex, skin phototype, comorbid medical history, previous and/or concurrent treatment, TXA treatment duration, dose, response, and adverse events. Treatment response was evaluated using the Melasma Severity Scale (MSS) on de-identified photographs at baseline, 6 months, 1 year, and 2 years.

Results: 26 patients were included. All patients were female with a mean age of 44.5 years, predominantly skin phototype III (42.3%), no medical comorbidities (92.3%), and a history of prior treatment (96.1%). All took oral TXA at 500mg/day for a mean of 12.8 months (range 6 – 24 months) and achieved excellence response (MSS 0 or 1). Two patients developed gastrointestinal upset, otherwise no other adverse events were reported.

Conclusion: Oral TXA is a safe long-term treatment for melasma. The most common side effect was gastrointestinal upset. Increased incidence of thromboembolic events was not observed in patients treated for up to 2 years.

Category: Early experiments with well-defined objectives/hypotheses

Poster 3

WHAT IS THE PREFERRED FORM OF CASE-BASED DERMATOLOGIC MODULAR LEARNING AMONGST RURAL PRIMARY CARE PROVIDERS IN MANITOBA?

Jordan Cram[1], Shane Silver[2], Neil Kitson[1]

[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada.
[2]Winnipeg, Manitoba

Background:
The unique landscape of our country presents a geographic barrier for access to dermatological care for the 17.8% of Canada's population who are currently living in rural areas (Statistics Canada, 2021). Teledermatology services provided by UBC have been developed to provide specialist support to rural primary care physicians through direct interaction with dermatologists, regarding the diagnosis and management of their patients' skin diseases. Phillips, Kitson, and Lim previously highlighted the potential to further expand the teledermatology model by disseminating supplemental learning materials amongst referring care providers at the time of consultation. (1) By providing dermatologic education to rural care practitioners this would promote increasing levels of comfort in their ability to manage frequently encountered skin diseases. We present our proposal to gather constructive criticism and feedback.

Objective:
We seek to explore the most effective form of supplemental learning materials to be given to rural primary care providers at the time of dermatology consultation.

Proposed methods:
The control group will consist of rural primary care providers who are currently practicing in Manitoba and are in good standing with the College of Physicians and Surgeons of Manitoba (CPSM.) An electronic survey will be administered to collect provider preferences regarding optimal form of modular learning. This data will be compiled and analyzed with the intention of then exploring optimal implementation.

Category: Pilot/exploratory experiments

References:

1) Phillips, J., Kitson, N., & Lim, C. (n.d.). *MODULAR LEARNING MATERIALS TO FACILITATE AND ENHANCE TELEDERMATOLOGIC SERVICE IN RURAL BRITISH COLUMBIA*.

Poster 4

DIRECT IMMUNOFLUORESCENCE IGG AUTOANTIBODY SUBCLASS ANALYSIS AS A TOOL TO DIFFERENTIATE BETWEEN BULLOUS SYSTEMIC LUPUS ERYTHEMATOSUS AND EPIDERMOLYSIS BULLOSA ACQUISITA

Touraj Khosravi-Hafshejani[1], Richard I. Crawford[1], Aaron Wong[1], and Jan P. Dutz[1]

[1]Department of Dermatology and Skin Science, University of British Columbia. Vancouver, Canada.

Background:
Bullous systemic lupus erythematosus (BSLE) and epidermolysis bullosa acquisita (EBA) are autoimmune blistering diseases characterized by the deposition of antibodies against type VII collagen. They have identical histologic presentations of subepidermal blisters with neutrophilic infiltrate in the dermis and direct immunofluorescent staining (DIF) showing linear depositions of IgG and C3 and less commonly IgM and/or IgA along the dermo-epidermal junction (DEJ). Salt-split skin shows dermal deposition of immunoglobulins. Clinically, they both present with erythematous dermal plaques, and tense vesicles and bullae involving the face, trunk, and extensor extremities. Clinico-histopathologic differentiation may be difficult as 30-50% of BSLE may precede SLE, and EBA can present with systemic symptoms of fever, fatigue, non-erosive arthritis and be associated with SLE. Previous studies have performed Western blotting with serum IgG subclasses against recombinant type VII collagen and shown elevated IgG2/IgG3 and IgG1/IgG4 levels in BSLE and EBA, respectively. DIF of IgG subclasses in perilesional skin is a simpler method and may aid in the differentiation between BSLE and EBA.

Observations: We report 6 patients with clinico-histopathologic differential diagnoses of BSLE (n=2) or EBA (n=4). Frozen tissue slides from perilesional skin was obtained from each patient. Primary rabbit anti-human monoclonal antibodies against IgG1, IgG2, IgG3, and IgG4 were added to the tissue and then incubated with goat anti-rabbit antibodies conjugated with Alexa Fluor 488. Images were captured via Olympus microscope and camera at 10x and 20x magnification. Two people blinded to the study evaluated the intensity of the DIF staining.
At the DEJ, DIF showed significantly stronger IgG2 and IgG3 staining in BSLE whereas EBA showed significantly stronger IgG1 and IgG4 staining.

Key Message: In cases with features consistent with both BSLE and EBA, tissue DIF IgG subclass staining can be useful to prioritize diagnostic options and to decide therapeutic management.

Category: Early experiment with well defined objectives/hypothesis

Poster 5

RISK FACTORS FOR BASAL CELL CARCINOMA, SQUAMOUS CELL CARCINOMA, AND MELANOMA AMONG PATIENTS FROM A CANADIAN DERMATOLOGY CLINIC

Jenny Lee[1, 2, 3], Tim K. Lee[1, 2, 3], Tashmeeta Ahad[1, 3], Harvey Lui[1, 3, 4], Jianhua Zhao[1, 3, 4], Haishan Zeng[1, 3, 4], Sunil Kalia[1, 2, 3, 5, 6].

[1]Department of Dermatology and Skin Science, University of British Columbia
[2]Cancer Control Research Program, BC Cancer, Vancouver, Canada
[3]Photomedicine Institute, Vancouver Coastal Health Research Institute, Vancouver, Canada
[4]Imaging Unit - Integrative Oncology Department, BC Cancer, Vancouver, Canada
[5]BC Children's Hospital Research Institute, Vancouver, Canada
[6]Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute, Vancouver, Canada

Background: Targeted screening of high-risk individuals is recommended over population screening to identify and manage skin cancer patients. A skin cancer risk prediction model developed for use in clinics can potentially aid physicians in their care for patients. Before this model can be developed, risk factors for skin cancer in a clinical setting should be investigated. Our aim was to investigate the different risk factors for skin cancer and their associations with basal cell carcinoma (BCC), squamous cell carcinoma (SCC), and melanoma in a Canadian clinical population.

Methods: 1003 patients from the Skin Care Centre in Vancouver have been surveyed. Demographics, personal history, phenotypic characteristics, and ultraviolet exposure measures were collected through interviews. Odds ratios were estimated from univariate regressions to assess the relationships between different variables and the different skin cancer types.

Results: Our study population included 105 melanoma, 367 BCC, and 148 SCC cases. There were 13 significant variables for melanoma, 17 for BCC, and 15 for SCC. Apart from age, presence of many lentigines was the strongest risk factor for melanoma (odds ratio [OR] 9.44, 95% confidence interval [CI] 4.25-24.0) and BCC (OR 22.8, CI 10.7-56.7). Apart from age, light eyes (OR 24.5, CI 6.15-164 for green, OR 12.6, CI 3.72-78.4 for blue) showed strongest effects for SCC risk.

Conclusion: We found significant associations between many proposed risk factors and the three types of skin cancer. Age, gender, phenotypic characteristics, and history of sunburns were important risk factors for all skin cancer types.

Category: Early experiments with well-defined objectives/hypotheses

Poster 6

LEARNING PRACTICAL DERMATOLOGY SKILLS THROUGH ANIMATED VIGNETTES: AN EFFECTIVE MEDICAL SCHOOL EDUCATIONAL INTERVENTION TO SUPPORT THE DISSEMINATION OF NATIONAL GUIDELINES

Harry Chaocheng Liu[1], Harman Toor,[1] Sara Choi[2], Ethan Zhang[3], Sabrina Nurmohamed[1]
[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, BC
[2]Faculty of Medicine, University of British Columbia, Vancouver, BC
[3]Department of Medicine, Queen's University, Kingston, ON

Background:
Choosing Wisely is a global initiative to improve outcomes in patient care by reducing unnecessary tests and treatments. The Canadian Dermatology Association developed five recommendations for Choosing Wisely Canada (CWC) to guide diagnosis and management of common dermatology conditions. Traditional models of dermatology education (i.e., didactic teaching, clinical rotations) are increasingly being complemented by novel educational tools, such as problem-based learning.

Objective:
We assessed the impact and reception of animated case-based videos of CWC recommendations for a medical student audience.

Materials and Methods:
Five 10-minute animated educational videos with a case-based approach were created for a pan-Canadian audience. Medical students reviewed the videos and were surveyed (using a five-point Likert scale) on video format and content and impact on their dermatology knowledge and resource stewardship.

Results:
53 students from 8 Canadian medical schools received an average of 6 hours of educational information. For 47%, the dermatologic content had not been encountered previously. Post-intervention, 94% of participants agreed or strongly agreed that the video format fit their learning style (Likert scale 4.3±0.6). 98% of participants better understood the rationale behind the recommendations (4.4±0.6) and 96% reported the videos enhanced their dermatology knowledge (4.6±0.6). The videos stimulated an interest in resource stewardship among 70% of participants. The major barriers of following the recommendations in clinical practice included: opinions from supervisors, unfamiliarity with recommendations, and impacting relationship with supervisors.

Conclusion:
Case-based animated educational videos are an effective means to develop practical dermatology knowledge and convey guidelines in an engaging way at the medical student level.

Category: Early experiments with well-defined objectives/hypotheses

Poster 7

A MULTI-CHANNEL CONTENT-BASED IMAGE RETRIEVAL METHOD FOR SKIN DISEASES

Yuheng Wang[1,2,3,4], Nandinee Fariah Haq[2,5], Jiayue Cai[5,6], Z. Jane Wang[2,5] , Sunil Kalia[1,3,4], Harvey Lui[1,3,4], Tim K. Lee[1,2,3,4]

[1]Department of Dermatology and Skin Science, University of British Columbia
[2]School of Biomedical Engineering, University of British Columbia
[3]Photomedicine Institute, Vancouver General Hospital
[4]Departments of Cancer Control Research and Integrative Oncology, BC Cancer
[5]Department of Electrical and Computer Engineering, University of British Columbia
[6]School of Biomedical Engineering, Health Science Center, Shenzhen University

Background: Content-based image retrieval (CBIR) systems extract similar images as the query image from a database. Dermatologists could make use of technique for diagnosing a new clinical case. With access to various imaging modalities, dermatologists may want to match more than one image modality and non-image meta-information. However, due to the large differences in characteristics, size, etc., between different types of inputs, it becomes highly challenging to consider them simultaneously in the CBIR framework.

Objectives: In this project, we developed a CBIR framework for skin diseases that incorporates multi-sourced information, including dermoscopic images, clinical images, and meta-information.

Methods: The proposed framework fuses the multi-sourced features in a mutual similarity level, thus solving severe dimensional bias problems among various types of inputs. Graph-based community analysis is used on similarity networks where similar images are strongly connected and help retrieve similar images with improved performance.

Results: The proposed method demonstrates the state-of-the-art performance for retrieving skin disease types with an average precision of 0.84. By integrating multi-sourced information from the same patient, the proposed CBIR system could be used in complex clinical scenarios with a trustable performance benefitting from multi-sourced information.

Category: Early experiments with well-defined objectives/hypotheses

POSTER 8

MANAGEMENT OF PEDIATRIC STEVENS-JOHNSON SYNDROME AND TOXIC EPIDERMAL NECROLYSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Danny M. J. Mansour, MD,[1,2] Ashley M. Yu, MD,[3] Kenneth Tang,[4] Neil H. Shear, MD,[5,6] Elena Pope, MD, MSc,[5,7] Michele Ramien, MD[4,8,9]

Affiliations:
[1]Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada
[2]Department of Dermatology and Skin Sciences, University of British Columbia, Vancouver, BC, Canada
[3]Department of Family Medicine, University of Toronto, ON, Canada
[4]Children's Hospital of Eastern Ontario, Ottawa, ON, Canada
[5]Faculty of Medicine, University of Toronto, Toronto, ON, Canada
[6]Division of Dermatology, Department of Medicine, Sunnybrook Health Sciences Centre, Toronto, ON, Canada
[7] Division of Pediatric Dermatology, The Hospital for Sick Children and Temerty Faculty of Medicine, University of Toronto, Toronto, ON, Canada
[8]Division of Community Pediatrics, Department of Pediatrics, Alberta Children's Hospital, Calgary, AB, Canada
[9]Division of Dermatology, Department of Medicine, University of Calgary, Calgary, AB, Canada

Treatment of Stevens-Johnson Syndrome (SJS) and toxic epidermal necrolysis (TEN) in children is challenging because of insufficient evidence to support one adjuvant treatment over another. We conducted a systematic review to summarize causes and disease associations of pediatric SJS, SJS-TEN overlap, and TEN (SJS/TEN) and quantify adjuvant treatment effects on mortality and healing time. The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, Cochrane Database of Systematic Reviews, and the Database of Abstracts of Reviews of Effects were searched through February 2018. All studies with at least one patient up to 18 years old diagnosed with SJS/TEN reporting at least one outcome of interest were included. Two reviewers assessed studies' eligibility and risk of bias and performed data extraction according to PRISMA and MOOSE guidelines. A robust standard errors model was used for data synthesis. The primary outcome was mortality associated with SJS/TEN for each treatment group. Secondary outcomes include healing time assessed by surrogate measures, disease-specific mortality, and sequelae. A total of 216/7,776 screened studies met inclusion criteria for a total of 1,004 patients. The most common causative agents were anticonvulsants (29%) and antibiotics (21%). The most common comorbid diseases were seizure-related disorders (37%) and infections (19%). There were 54 reported deaths (5.4%). There was no statistically significant difference in mortality rate between intervention and supportive care. Descriptive subset analysis suggested supportive care alone and surgical debridement may increase time to healing. Respiratory (22%) complications were most common. The limited available data suggests supportive care alone and surgical debridement should be avoided.

Category: Systematic review

Poster 9

INVESTIGATION OF THE SCALP MICROBIOME IN DIFFERENT FORMS OF ALOPECIA

Navid Zahedi Niaki[1], Richard I. Crawford[1]

[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada.

Increasing evidence points towards the interplay between the skin microbiome and the cutaneous immune system in various skin disorders. It is thought that the scalp microbiota may play a role in many forms of alopecia by perpetuating a pro-inflammatory environment. For instance, localized micro-inflammation of the hair follicles, possibly impacted by the presence of altered scalp microbiome, has been proposed as one contributing factor in the pathology of androgenetic alopecia (AGA). Other studies also report potential roles of the scalp microbiome in the pathogenesis of alopecia areata (AA) and lichen planopilaris. Moreover, hair loss has a significant negative impact on quality of life. As such, it is important to continue exploring the link between the scalp microecology and hair loss as it may provide new management avenues. We aim to investigate the scalp microbiomes of different types of alopecia through morphologic observation of microorganisms from alopecia biopsy samples obtained from the Vancouver General Hospital pathology laboratory. Biopsy samples will be assessed with hematoxylin and eosin (H&E) and periodic acid–Schiff-diastase (PAS-D) staining for *Demodex, Melassezia*, *Staphylococcus aureus*, and *Corynebacterium*. We will initially compare male and female pattern hair loss with alopecia areata. We postulate that these different forms of alopecia will present with distinctive proportions of commonly seen organisms.

Category: pilot/exploratory experiments (for study design, hypotheses creation, etc)

Poster 10

DECOMPOSING IMAGES INTO HEMOGLOBIN AND MELANIN COMPONENTS

Andy Zhao[1,2,3], Daniel C. Louie[2,3,4,5], Yuheng Wang[2,3,4], Umar Ali[2,3,5], Harvey Lui[2,3,4], Sunil Kalia[2,3,4,6,7], Tim K. Lee[2,3,4]

[1]Department of Computer Science, University of British Columbia, Vancouver, Canada [2]Departments of Cancer Control Research and Imaging Unit – Integrative Oncology Department, BC Cancer, Vancouver, Canada [3]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada [4]Photomedicine Institute, Vancouver Coastal Health Research Institute, Vancouver, Canada [5]School of Biomedical Engineering, University of British Columbia, Vancouver, Canada [6]BC Children's Hospital Research Institute, Vancouver, Canada [7]Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute, Vancouver, Canada

Background and Objective: Skin colour is primarily determined by two chromophores: melanin and hemoglobin. Identifying the concentrations of each component in the skin can aid in diagnostic tasks and have implications on research of the skin-tone line. This study aims to qualify the efficacy of static matrix decomposition (SMD), one of several methods proposed for this task.

Methods: A set of 50 high resolution, RGB, clinical images were used as candidates for SMD. Preprocessing was applied to remove shading and specular reflection. The images then underwent a matrix transformation—obtained from models of melanin and hemoglobin extinction curves—that transformed the RGB image into a set of hemoglobin-melanin vectors. Each component of the vector was then composed into its own image.

Preliminary Results: The component images capture detail as expected, with high hemoglobin response where the image is redder, and high melanin response on darker, more saturated browns. The component images also preserve the details of the lesions. However, there were some limitations, namely a lack of melanin concentration on hair pixels, where a large concentration is expected.

Preliminary Conclusions: SMD is effective in extracting the two components with good precision and accuracy, while also being efficient compared to other methods. Despite the limitations regarding hair and other minor artifacts, the results that SMD produces provide the potential for a computationally efficient way to perform hemoglobin-melanin decomposition. In future studies, we aim to validate the implications of SMD.

Category: Pilot/exploratory experiment

Poster 11

A REVIEW OF FACTORS CONTRIBUTING TO CANADIAN MEDICAL PROTECTIVE ASSOCIATION MEDICAL-LEGAL CASES INVOLVING PRACTICING CANADIAN DERMATOLGOISTS FROM 2014-2018

Julia Mayba[1], Lisa Flegel[1], Mimi Tran[1]

[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada

The Canadian Medical Protective Association maintains a large national database that includes information on advice calls to the Association, legal actions, and complaints to regulatory authorities (Colleges) and hospitals.

We wanted to identify factors contributing to medal-legal cases involving practicing Canadian dermatologists. Medical analysts reviewed their database for legal actions, College cases and hospital complaints from 2014-2018.
From 2014-2018, 15188 eligible cases were identified. 2% (223/15,188) involved dermatologists, and 72% (160/223) of these cases were College cases. 64% of cases (142/223) had an unfavourable medical-legal outcome for the member.
The three most common types of patient allegations included: poor clinical decision-making, inappropriate physician conduct and breakdown in communication with the patient.

With respect to healthcare-related harm, concerns regarding the diagnostic process leading to a misdiagnosis, a missed diagnosis, or a delay in diagnosis were found in 21% (33/156) of critical peer expert opinion cases. The most frequent diagnostic errors involved patients with melanomas, basal cell and squamous cell carcinomas.

Among 223 patients, 4% (10/223) experienced moderate to severe outcomes e.g., progression of skin cancer with changes to prognosis or treatment.

Various provider, team and system factors were identified, contributing to the medical-legal cases.
Overall, the three main areas of concern contributing to medical-legal risk for dermatologists included diagnostic error involving skin carcinomas, breakdowns in communication, including deficient documentation, and physicians' interpersonal skills.

Similar data from 2016-2021 was requested, but not available at this time. In the future, data post-2020 could be obtained, allowing a comparison of factors pre- and post-pandemic.

Category: Early experiments with well-defined objectives/hypotheses

Poster 12

PHOTOGRAPHY AND IMAGE ACQUISITION IN DERMATOLOGY: A SCOPING REVIEW

Nadia Kashetsky, MSc[1†], Kristie Mar, BSc[2†], Chaocheng Liu, MD[3], Jason K Rivers, MD, FRCPC, FCDA, FAAD[3,4], Ilya Mukovozov, MD, PhD[3]

[1] Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada
[2] Department of Medicine, University of British Columbia, Vancouver, British Columbia, Canada
[3] Department of Dermatology and Skin Science, University of British Columbia, Vancouver, British Columbia, Canada
[4] Pacific Derm, Vancouver, British Columbia, Canada
[†] Co-authors with equal contribution

Clinical photography is essential in dermatology and has been evolving rapidly. However, a comprehensive literature review of photography in dermatology is lacking. This scoping review aims to summarize the literature regarding photography practices in dermatology, techniques for high-quality photography, photography of skin of color, patient preferences, and medical-legal considerations. A literature search was conducted utilizing Embase, MEDLINE, PubMed, and Evidence Based Medicine databases in accordance with the PRISMA extension for Scoping Reviews. Clinical photography is commonly used in biopsy site marking, assessment and diagnosis, disease monitoring, evaluation of treatment response, medical education, research, seeking advice from colleagues, and teledermatology. Camera type, resolution, lens choice, camera settings, environment and set-up, standardization, and types of clinical photography are all important factors in acquisition of high-quality photography. Although, dermatologic photography remains devoid of skin of color representation, several photographic considerations for darker skin are available. Majority of patients support medical photography, with preference for clinical photographs taken by their own physicians, and clinic/hospital-owned cameras over personal devices. Pertinent medical-legal issues include concerns around privacy, personal device use, and documentation of consent. Photography in dermatology is continuously evolving with broader applications. Overall, high quality images of skin of all colors, for a variety of applications in dermatology, can be optimized by using specific equipment, environmental elements, and standardized protocols.

Category: Pilot/exploratory experiment (for study design, hypotheses creation, etc)

Poster 13

CURRENT PRACTISES IN ADVISING HERPES ZOSTER AND HUMAN PAPILLOMAVIRUS VACCINES FOR RENAL TRANSPLANT CANDIDATES

Andrew McDermid[1], John Gill[2], Jagbir Gill[2], Tom Blydt-Hansen[3], Allison Mah[4], Hannah Mitchell[5], Alissa Wright[4], Matthew Kadatz[2] and Sheila Au[1]

1. Department of Dermatology and Skin Sciences, University of British Columbia, Vancouver, British Columbia, Canada
2. Department of Internal Medicine and Nephrology, University of British Columbia, Vancouver, British Columbia, Canada
3. Department of Pediatrics and Nephrology, University of British Columbia, Vancouver, British Columbia, Canada
4. Department of Internal Medicine and Infectious Diseases, University of British Columbia, Vancouver, British Columbia, Canada
5. Department of Pediatrics and Infectious Diseases, University of British Columbia, Vancouver, British Columbia, Canada

Abstract:

Solid organ transplant candidates are a unique population with end-stage organ disease and predictable anticipated lifelong immunosuppression. The candidacy period represents an opportunity to vaccinate patients prior to immunosuppression to elicit a more robust response to a given vaccine. Organ transplant recipients have a disproportionately high burden of infectious disease and associated conditions. Two important examples include Herpes zoster virus (Shingles), which is a common cause of long-term post herpetic neuralgia, and human papillomavirus (HPV) which has been implicated in numerous mucocutaneous malignancies. Safe and effective virus-like particle recombinant vaccines for HPV and Shingles have been available for 16 and 5 years, respectively. These vaccines are not funded for organ transplant candidates in British Columbia. SPIRIT – Shingles/Papillomavirus Immunization for Renal patients with Impending Transplant is a multidisciplinary research group with adult and pediatric renal transplant physicians, infectious disease physicians and dermatologists advocating for immunization of renal transplant patients. We have recently launched a 5 minute survey and sent it to all Canadian adult and pediatric renal transplant program directors with the goals of understanding current standards of practice and identifying barriers in delivery HPV and Shingles vaccine for transplant candidates. The survey includes multiple choice questions addressing institutional guidelines, use of various advisory body guidelines, funding as a barrier and asks for text-based feedback identifying other gaps in renal transplant candidate vaccination. Gaps and discrepancies identified in this study can be used to inform publications providing guidance for vaccination in transplant candidates and promote vaccine funding in transplant candidates.

Category: 1) Exploratory experiments

Poster 14

CHARACTERIZATION OF PATIENT ENCOUNTERS AT A SINGLE REFERRAL TERTIARY CENTRE: A QUALITY-IMPROVEMENT STUDY

Ian T.Y. Wong[1], Neil Kitson[1], Tashmeeta Ahad[1]

[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver,

Canada

Background: The dermatology rapid access clinic (RAC) is positioned to address urgent care and ER consultation requests that are not suitable to be seen by an inpatient dermatology service or by an outpatient dermatology consultant managing chronic dermatologic disorders.

Objectives: This quality improvement study aims to describe dermatology consultations seen at a Vancouver hospital outpatient RAC over a six-month period. We aim to profile the major dermatologic categories seen in all patient encounters reviewed. We aim to determine the dermatologic disorders seen by virtual care and determine the settings in which an in-person follow up was needed. We aim to characterize the settings in which a biopsy was performed in all patient encounters.

Results: From June 2021 to December 2021, there were 26 rapid access clinics and 261 patient encounters. From this, 221 patient encounters (84.7%) were in-person, and 40 patient encounters (15.3%) were virtual. The top 5 dermatologic categories encountered include dermatitis (32.2%), infectious (11.1%), bullous (8.0%), non-melanoma skin cancer (7.7%), and other inflammatory (5.7%). Virtual encounters that required subsequent in-person follow up comprised of 10 cases (25.0%) and, amongst these follow ups, this resulted in skin biopsies in 2 cases (20%). Of the in-person patient encounters, a skin biopsy was performed in 25 cases (11.3%).

Conclusions:

The variety of dermatologic presentations in RAC provides a learning opportunity for medical learners. By better understanding the dermatologic conditions seen in RAC, educational endeavors and triaging procedures can be implemented to mitigate the referral strain on a single referral tertiary centre.

Category: Early experiments with well-defined objectives/hypotheses

Poster 15

MELASMA: SYSTEMATIC REVIEW OF THE SYSTEMIC TREATMENTS

L. Zhou, MD,[1] A. Baibergenova, MD, PhD, MPH[2]
[1]Department of Dermatology and Skin Science, University of British Columbia, Vancouver, Canada
[2]Division of Dermatology, University of Toronto, Toronto, Ontario, Canada

Introduction: Melasma is a common disorder of pigmentation. Currently available treatment options for melasma include photoprotection, topical lightening agents, chemical peels, light-based and laser therapies. There has been increasing interest recently in oral medications and dietary supplements in improving melasma. We sought to evaluate the efficacy, safety and tolerability of oral medications and dietary supplements for the treatment of melasma.

Methods and results: 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. 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.

Conclusion: In summary, several systemic agents studied may improve melasma and enhance the efficacy of topical treatments. As 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.

Category: Early experiments with well-defined objectives/ hypotheses

Poster 16

STANDARDIZING DIFFUSE REFLECTANCE SPECTROSCOPY CHROMOPHORE MEASUREMENTS ON HUMAN SKIN

Pourghadiri, A.[1], Ahad, T.[2], Zhao, J [2,3]., Lui, H.[2,3], Zeng, H.[2,4], Lee, T.[2,6], Kalia, S.[2,3,5,7]

[1]Faculty of Medicine, University of British Columbia, British Columbia, Canada.
[2]Photomedicine Institute, Department of Dermatology and Skin Science, University of British Columbia and Vancouver Coastal Health Research Institute, Vancouver, Canada
[3]Department of Cancer Control Research, BC Cancer Research Center, Vancouver, Canada Imaging Unit - Integrative Oncology Department, BC Cancer Research Center, Vancouver, Canada
[4]Imaging Unit - Integrative Oncology Department, BC Cancer Research Center, Vancouver, Canada
[5]BC Children's Hospital Research Institute, Vancouver, Canada
[6]Biomedical Engineering Program, University of British Columbia, Vancouver, BC, Canada.
[7]Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute, Vancouver, Canada

Background: Diffuse reflectance spectroscopy (DRS) provides physiologic information on human skin including chromophore content. Capturing diffuse reflectance spectra can be accomplished with a fibre probe or integrating sphere. In this study, diffuse reflectance with a fibre probe (DRS-FP) was compared to diffuse reflectance with an integrating sphere (DRS-IS) across 16 anatomical sites of human subjects to provide a standardized reference calibration.

Methods: Forty-five healthy human subjects (Fitzpatrick skin types I-VI) enrolled in this study, and reflectance measurements were assessed on 16 anatomical regions. An integration time of 3-4 msec and 300-320 msec were applied for DRS-FP and DRS-IS, respectively. Spectra of DRS-FP were divided by DRS-IS and compared between 500-750 nm. Subsequently, a simple linear regression followed by a lack of fit F-test was performed. Melanin, deoxyhemoglobin (Hb), and oxyhemoglobin (HbO_2) contents were measured and compared for DRS-FP and DRS-IS using a two-way ANOVA. Ratios of DRS-IS and DRS-FP were utilized to calculate correction factors. Results are expressed as mean ± standard error of the mean (SEM).

Results: Reflectance spectra of DRS-FP and DRS-IS ratios fit a linear model across all anatomical sites ($p > 0.05$). Further, DRS-IS reflectance increased with increasing wavelength compared to DRS-FP. Ratios of DRS-IS and DRS-FP across all anatomical regions revealed a mean correction factor of 1.283 ± 0.017 for Hb, 1.160 ± 0.040 for HbO_2, and 1.343 ± 0.097 for melanin.

Conclusions: Diffuse reflectance spectroscopy provides a non-invasive and objective measurement of chromophores. This study demonstrated the application of DRS-IS to assess chromophore content.

Category: Early experiments with well-defined objectives/hypotheses.