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Background: Atopic dermatitis (AD) is characterized by a damaged skin barrier that allows allergens to penetrate the body, leading to a sensitization and a higher risk to develop food allergy (35%), asthma (50%), and/or allergic rhinitis (75%), all characterizing the allergic march. This study aims to prevent these diseases by building a polygenic risk score (PRS) to identify newborns with a higher risk of developing AD in the Canadian population.
Methods: The Saguenay–Lac-Saint-Jean (SLSJ) asthma cohort and the CHILD birth cohort, which includes respectively imputed GWAS data from 1200 French-Canadian individuals and 5300 individuals from Vancouver, Edmonton, Winnipeg and Toronto, will be used for analyses. Using the two cohorts will increases the power of analysis and will consider the ethnic variability of the Canadian population. Loci associated with AD in the literature will be tested with a general regression model and best associations will be included in the PRS. Patients PRS' will be calculated according to the odds ratio and the number of risk allele(s) for selected loci. A ROC curve will be built to determine the cut-off threshold of the PRS and analyses will be ran on the risk categories and random samples, tested with and without potential covariates, to assess its sensitivity and specificity.
Results: Preliminary results using the SLSJ cohort were obtained from 17 genome-wide loci involved in AD. A PRS including phenotypic data (age, asthma) as covariates was built, giving a 67% specificity, 74% sensitivity and an area under the curve (AUC) of 0.76. Based on these results, adding the CHILD cohort to the analysis should lead to a more accurate specificity and sensitivity (> 80%).
Conclusion: Expected results should allow to discriminate newborns (< 6 months old) that are at risk of developing AD in the perspective to prevent the development of the allergic march diseases.

#83

Assessing quality of life instruments for patients with nasal polyposis: a systematic review

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Background: Nasal polyposis (NP) is an inflammatory chronic disease of the upper respiratory tract that significantly impacts quality of life (QoL) and daily functioning. Many QoL measurement instruments for NP patients exist; however, it is unclear whether the most disease-specific instrument is currently in use.
Methods: A systematic review was conducted in the Ovid MEDLINE, Embase, and Cochrane CENTRAL databases to identify all original validation studies that assessed QoL instruments in NP patients. The quality of each instrument was evaluated following the COnsensus-based Standards for the selection of health status Measurement INstruments checklist.
Results: A total of 8 validated QoL instruments for NP patients were identified, with the most commonly-used and well-established tool in the literature being the 22-Item Sinonasal Outcome Test. Significant inconsistencies were noted in the way that measurement properties were developed and reported. All questionnaires assessed the QoL in chronic rhinosinusitis (CRS) with and without NP. Four questionnaires specified the percentage of included NP patients, which ranged from 11 to 71%; however, none of the item generation studies focused exclusively on NP patients. This created challenges in understanding if the tool could assess QoL specifically in these subjects. On quality assessment, three instruments scored positive for at least four of the six measurement properties.
Conclusion: QoL impairment in patients with NP has been reported to be prevalent and severe. While a handful of instruments exist to assess QoL in these patients, most of the existing questionnaires lacked a thorough CRS subtype analysis within the sample included in the original validation study. Instruments previously developed to assess QoL in NP patients have not exclusively used NP patients in their development and none had a positive score on all quality assessments. A short, validated, more disease-specific QoL instrument would be helpful in assessing new therapies for NP and making decisions regarding clinical management.

Urticaria/angioedema

#84

Real world data of Canadians living with hereditary angioedema (HAE): attributes of new medications

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Background: Hereditary angioedema (HAE) is a chronic spontaneous life-threatening disease. Until recently, treatment options for HAE have been limited and required infusion. New treatment options would be beneficial to this population.
Methods: In 2019, HAE Canada conducted an online survey of patients and caregivers to assess the challenges patients and caregivers face as a result of hereditary angioedema and to gain insight into their experience and expectation with therapies used to treat hereditary angioedema.
Results: Of 73 respondents to the questions, 68 were living with HAE and 6 were providing care to a patient with HAE. Of the respondents, 43/50 (86%) indicated that access to new treatments is extremely important. Attributes for new medications that were considered extremely important were: more convenient dosing interval -38/58, reduction in edema attacks—47/57, easier mode of delivery 44/58, prophylactic administration—44/56. Eight participants (13%) had received treatment with lanadelumab a newly approved medication. On a scale of 1 to 5, five participants rated its effectiveness preventing attacks at 5 and 1 each rated it a 3 or 4. Reported adverse events were headache (2/8) and pain at injection site (7/8) scored as tolerable to very tolerable. The majority (5/8) indicated their quality of life while taking lanadelumab to be comparable to normal living. Access to lanadelumab was predominantly through participation in a Canadian clinical trial (5/8), a compassionate access program (1/8) or through private insurance (1/8).
Conclusion: The data collected indicates that newer, more effective and more convenient treatments for are wanted by Canadian HAE patients. The newest approved treatment, lanadelumab, which is given by subcutaneous injection every 2 weeks fulfils some of these requirements according to a limited number of patients. It is important that Canadian HAE patients have access to multiple treatments to address the unpredictable nature of this disease.

#85

Long-term treatment with ligelizumab is well tolerated, demonstrates sustained control and high retreatment efficacy in patients with chronic spontaneous urticaria

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