

ABSTRACT SUBMISSION FORM

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SEX + GENDER

Exploring the role of sex and gender on health research



CHRDC 2020: Abstract Submission Form

Submitter Name

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Title

Urine cytokine levels and albuminuria progression over 2 years in youth with Type 2 Diabetes

Background

Inflammation has been linked to the pathophysiology of diabetic kidney disease in adults. Metabolic and hemodynamic abnormalities are thought to activate the phagocyte system and lead to proinflammatory cytokine release, which are associated with CKD progression.

Objective

We hypothesized that inflammation, measured via select urine cytokines, is associated with progression of albuminuria in youth with type 2 diabetes (T2D).

Methods

A cross-sectional analysis of samples from youth with T2D 10-18 years of age (n=93) was performed from the iCARE cohort. Biobanked samples from the baseline visit were evaluated for Interleukin-1 β (IL-1 β), IL-6, CX3CL1, Chemokine C-C Ligand-2 (CCL2), CCL5, TNF α , ENA78, sTNFI, and sTNFRII by custom multiplex cytokine kits (Eve Technologies, Calgary). The primary outcome was change in urine albumin:creatinine ratio (ACR) over a 2-year period. Univariate associations evaluated with ANCOVA (cytokines log-transformed) and Cox proportional hazard models where appropriate for each cytokine with change in ACR as the dependent variable.

Results

Mean age was 14.00 \pm 2.20 years with diagnosis of T2D of 2.10 + 1.70 years duration and 64 % female. The mean ACR change was + 4.3mg/mmol (range -15 to 198). IL-6 (OR 1.01 95% CI 1.00 to 1.02; p-value 0.025) and TNF α (OR 1.01 95% CI 1.00 to 1.02; p-value 0.041) were predictive of a higher ACR change.

Conclusion

Higher IL-6 and TNF α levels are associated with a greater increase in ACR over a 2-year period in youth

with T2D. Longitudinal follow-up studies are needed to determine if urine cytokines can predict CKD progression in youth onset T2D.

Theme:
Clinical

Do you have a table/figure to upload?
No

Are you willing to participate in Goodbear's Den?
No

Presenter Status:
Non-Trainee

What was your role in the project?
Design

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