# Title page

Title: Urinary Vitamin D Binding Protein Loss as a Potential Biomarker for Diabetic Nephropathy in Patients at Risk for Type 2 Diabetes

Author: Windy ZN Wang

Affiliations: University of Toronto

Disclaimers:

Correspondence: [windy.wang@mail.utoronto.ca](mailto:windy.wang@mail.utoronto.ca)

Funding support: CIHR, Sharon Zeiler, BBDC Novo Nordisk, Dairy Farmers

# Abstract

# Background

# Subjects and Methods

# Results

TABLE 1: Subject characteristics across UDBP tertiles

## Stratified by UDBPQuartile  
## 1 2   
## n 457 458   
## Age (mean (sd)) 53.52 (10.37) 53.89 (10.07)   
## Sex = Male (%) 154 (33.7) 120 (26.2)   
## Ethnicity (%)   
## European 320 (70.0) 321 (70.1)   
## Latino/a 54 (11.8) 49 (10.7)   
## Other 45 (9.8) 45 (9.8)   
## South Asian 38 (8.3) 43 (9.4)   
## BMI (mean (sd)) 31.89 (6.64) 29.95 (5.99)   
## Waist (mean (sd)) 102.34 (15.83) 96.64 (14.70)   
## eGFR (mean (sd)) 91.29 (16.00) 92.35 (16.27)   
## ACR (median [IQR]) 0.56 [0.38, 0.83] 0.66 [0.44, 1.00]   
## UrineCreatinine (mean (sd)) 11.31 (7.94) 8.05 (5.97)   
## UrineMicroalbumin (median [IQR]) 5.99 [2.99, 8.00] 4.00 [2.99, 6.00]   
## UrinaryCalcium (mean (sd)) 2.46 (1.82) 1.71 (1.39)   
## UDBP (median [IQR]) 3.18 [0.94, 6.42] 26.21 [18.84, 34.82]  
## Systolic (mean (sd)) 125.93 (14.50) 125.79 (16.49)   
## Diastolic (mean (sd)) 79.32 (9.70) 79.28 (10.52)   
## MeanArtPressure (mean (sd)) 94.86 (10.42) 94.78 (11.53)   
## Stratified by UDBPQuartile  
## 3   
## n 474   
## Age (mean (sd)) 53.48 (10.31)   
## Sex = Male (%) 158 (33.3)   
## Ethnicity (%)   
## European 332 (70.0)   
## Latino/a 64 (13.5)   
## Other 52 (11.0)   
## South Asian 26 (5.5)   
## BMI (mean (sd)) 31.22 (6.42)   
## Waist (mean (sd)) 100.22 (15.43)   
## eGFR (mean (sd)) 90.86 (15.44)   
## ACR (median [IQR]) 0.53 [0.36, 0.83]   
## UrineCreatinine (mean (sd)) 11.88 (6.74)   
## UrineMicroalbumin (median [IQR]) 5.99 [4.00, 8.00]   
## UrinaryCalcium (mean (sd)) 2.37 (1.68)   
## UDBP (median [IQR]) 64.90 [54.96, 77.10]  
## Systolic (mean (sd)) 126.49 (14.35)   
## Diastolic (mean (sd)) 80.14 (9.35)   
## MeanArtPressure (mean (sd)) 95.59 (10.23)   
## Stratified by UDBPQuartile  
## 4 p test   
## n 463   
## Age (mean (sd)) 52.76 (10.75) 0.415   
## Sex = Male (%) 130 (28.1) 0.026   
## Ethnicity (%) 0.408   
## European 312 (67.4)   
## Latino/a 54 (11.7)   
## Other 59 (12.7)   
## South Asian 38 (8.2)   
## BMI (mean (sd)) 31.56 (5.92) <0.001   
## Waist (mean (sd)) 100.41 (14.67) <0.001   
## eGFR (mean (sd)) 93.05 (15.62) 0.136   
## ACR (median [IQR]) 0.70 [0.47, 1.57] <0.001 nonnorm  
## UrineCreatinine (mean (sd)) 15.73 (7.16) <0.001   
## UrineMicroalbumin (median [IQR]) 11.15 [7.00, 21.15] <0.001 nonnorm  
## UrinaryCalcium (mean (sd)) 2.75 (1.89) <0.001   
## UDBP (median [IQR]) 137.90 [110.25, 203.35] <0.001 nonnorm  
## Systolic (mean (sd)) 127.79 (16.18) 0.186   
## Diastolic (mean (sd)) 80.99 (10.27) 0.028   
## MeanArtPressure (mean (sd)) 96.59 (11.24) 0.042

# Discussion

## Acknowledgements

# References