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COMPARATIVE EFFECTIVENESS OF SGLT2 INHIBITORS, DPP-4 INHIBITORS, AND GLP-1 AGONISTS ON INCIDENT ALBUMINURIA AND GLOMERULAR FILTRATION RATE DECLINE IN US VETERANS:

Connie Rhee[1,2], Yoko Narasaki[1,2], Amy You[1,2], Praveen Potukuchi[3,4], Ankur Dashputre[3,4], Keiichi Sumida[3,4], Fridtjof Thomas[3,4], Elani Streja[1,2], Kam Kalantar-Zadeh[1,2], Csaba Kovesdy[3,4]. [1]VA Long Beach; [2]University of California – Irvine; [3]VA Memphis; [4]University of Tennessee Health Science Center

Recent clinical trials have shown that SGLT2 inhibitors (SGLT2i) vs. placebo substantially reduce the risk of eGFR decline, ESRD, and mortality in CKD patients. However, little is known about the comparative effectiveness of SGLT2i vs. other newer anti-glycemic medications (DPP-4 inhibitors [DPP4i], GLP1 agonists [GLP1a]) on risk of incident albuminuria and GFR decline using real-world data in patients without underlying CKD.

Among 32,250 US Veterans with diabetes and without CKD receiving care from the VA healthcare system over 2004-18, we identified incident users of SGLT2i vs. DPP4i vs. GLP1a therapy, excluding combined users of the examined classes. We first examined associations of SGLT2i vs. DPP4i vs. GLP1a use with the risk of incident albuminuria (defined as ≥2 urine-to-albumin-creatinine [UACR] levels ≥30 separated by >90 days) using multivariable Cox models. We then compared the risk of developing GFR decline (defined as ≥2 eGFR <45ml/min/1.73m^2 levels separated by >90 days) with use of these anti-glycemic medications.

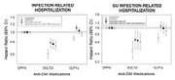
Compared to DPP4i, use of GLP1a was associated with higher risk of incident albuminuria, whereas use of SGLT2i was not associated with higher risk in Cox models adjusted for expanded case-mix+laboratory+other anti-glycemic medication covariates. We similarly observed that GLP1a use was associated with higher risk of eGFR decline, whereas SGLT2i use was not associated with higher risk.

In a national cohort of US Veterans with diabetes and without underlying CKD, GLP1a use was associated with higher risk of incident albuminuria and eGFR decline, whereas use of SGLT2i had comparable risk to DPP4i use.

examined associations of SGLT2i vs. DPP4i vs. GLP1a use with risk of 1) infection-related hospitalization (including genitourinary [GU] infection hospitalization), 2) amputation, and 3) diabetic ketoacidosis (DKA) using multivariable Cox models.

In the overall cohort, compared to DPP4i, SGLT2i use was associated with lower risk of infection-related hospitalization (including GU-infection hospitalization), whereas GLP1a use demonstrated comparable risk. While SGLT2i use was not associated with higher risk of amputation, this therapy was associated with higher risk of DKA compared with DPP4i use. Similar findings were observed in analyses stratified by CKD vs. non-CKD status.

In a national cohort of US Veterans with diabetes, compared with DPP4i use, SGLT2i use was associated with lower risk of infectious hospitalization (including GU-related infection), yet was associated with higher risk of DKA.



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CHRONIC KIDNEY DISEASE RISK FACTOR BURDEN ACROSS RACE/ETHNICITY IN A DIVERSE HAWAII COHORT: FINDINGS FROM THE NATIONAL KIDNEY FOUNDATION OF HAWAII'S KIDNEY EARLY DETECTION SCREENING PROGRAM:

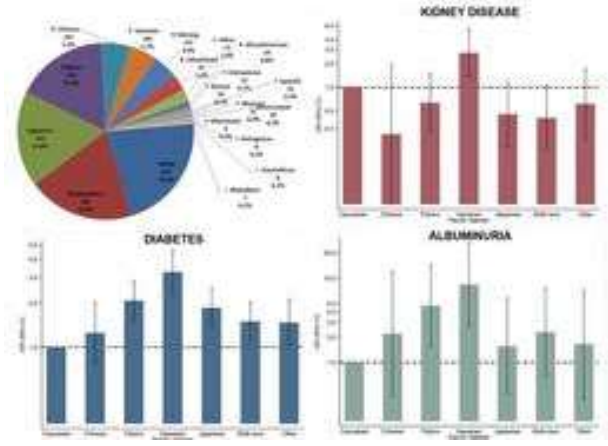
Connie Rhee[1], Merle Kataoka-Yahiro[2], Linda Wong[3], Jim Davis[3], Lung-Yi Lee[3], Roland Ng[3], Shiuh Feng Cheng[3], Amy You[1], Yoko Narasaki[1], Victoria Page[4], Glen Hayashida[4], Kam Kalantar-Zadeh[1]. [1]University of California - Irvine; [2]University of Hawaii-Manoa; [3]John A. Burns School of Medicine; [4]NKF-Hawaii

Hawaii residents have a high prevalence of kidney disease, yet little is known about the differential burden of CKD risk factors across race/ethnicity in this diverse population. We examined data from the National Kidney Foundation of Hawaii's (NKF-HI) Kidney Early Detection Screening Program (KEDS), which has conducted state-wide community-based health screening events since 2005.

We examined data from Hawaii residents who participated in NKF-HI's KEDS health screening events, namely KEDS Wave 1 (2006-9), Wave 2 (2010-12), and Wave 3 (2013-17). Using logistic regression, we examined associations of race/ethnicity with the likelihood of 1) self-reported kidney disease, 2) severely increased albuminuria (defined as urine-to-albumin-creatinine ratio >300mg/g), and 3) self-reported diabetes.

Among 3088 KEDS Waves 1-3 participants, the most prevalent racial/ethnic groups were those of Caucasian (21.6%), Multi-Racial (19.6%), Japanese (17.6%), Filipino (16.8%), Chinese (5.3%), and Native Hawaiian (5.2%) background. Compared with Caucasian participants, those of Native Hawaiian/Other Pacific Islander (NHOPI) background had higher likelihood of kidney disease, while both NHOPI and Filipino participants had higher likelihood of severely increased albuminuria. NHOPI, Filipino, Japanese, Multi-Racial, and Other Race participants had higher risk of diabetes vs. those of Caucasian background.

In a diverse cohort of Hawaii residents who participated in community-based health screening events, there was a differential burden of CKD risk factors across racial/ethnic groups.



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NUTRITIONAL PARAMETERS AMONG A DIVERSE CHRONIC KIDNEY DISEASE COHORT IN HAWAII:

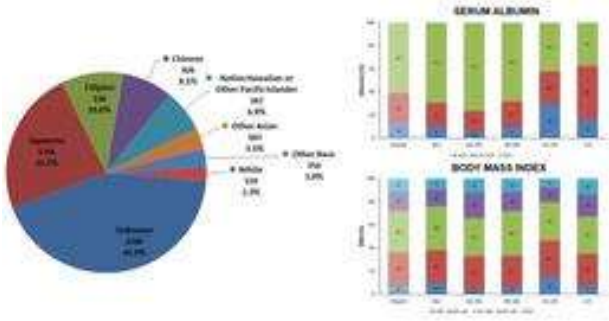
Connie Rhee[1], Merle Kataoka[2], Linda Wong[3], Jim Davis[3], Lung-Yi Lee[3], Roland Ng[3], Shiuh Feng Cheng[3], Amy You[1], Yoko Narasaki[1], Victoria Page[4], Glen Hayashida[4], Kam Kalantar-Zadeh[1]. [1]University of California - Irvine; [2]University of Hawaii-Manoa; [3]John A. Burns School of Medicine; [4]NKF-Hawaii

Growing data indicate that Native Hawaiians, Pacific Islanders, and Asians suffer from higher rates of chronic kidney disease (CKD) and its risk factors (obesity, diabetes, and hypertension) compared to their Caucasian counterparts. While optimization of nutritional status is a cornerstone in the management of advanced CKD patients progressing to end-stage renal disease, little is known about the renal nutrition of this minority populations across the various stages of kidney disease. To address this knowledge gap, we sought to examine nutritional parameters among a diverse cohort of CKD patients in the state of Hawaii.

Among a diverse cohort of CKD patients across the state of Hawaii, we examined nutritional parameters, namely 1) serum albumin levels (categorized as <3.5, 3.5-<4.0, and ≥4.0g/dl) and 2) body mass index (BMI; categorized as , across varying levels of kidney function (categorized according to estimated glomerular filtration rates [eGFRs] of ≥90, 60-<90, 30-<60, 15-<30, <15ml/min/1.73m^2).

Among 2563 participants who met eligibility criteria, the most prevalent racial/ethnic groups were those of Japanese (41.2%), Filipino (18.3%), Chinese (14.9%), and Native Hawaiian/Other Pacific Islander (12.1%) background (Figure). Among patients with stages 3-5 CKD, with incrementally lower levels of kidney function, we observed increasingly lower optimal serum albumin levels (i.e., ≥4.0g/dl): 68%, 42%, and 37% for stages 3, 4, and 5 CKD. Across all stages of CKD, we observed a high prevalence of overweight (BMI 25-<30kg/m^2: 32-39%) and obese status (BMI ≥30kg/m^2: 21-34%).

In a diverse cohort of Hawaii residents with underlying CKD, we observed increasingly lower serum albumin levels with increasingly worse kidney function, as well as a high burden of overweight and obese status across all levels of kidney function. Further studies are needed to identify interventions that can optimize the nutritional health of CKD patients in this population



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COMPARISON OF CLINICAL OUTCOMES FOR BELATACEPT VERSUS CALCINEURIN INHIBITOR AMONG DCD AND/OR HIGH KDPI KIDNEY TRANSPLANT RECIPIENTS:

Asim Rizvi[1], Thang Nguyen[1], Allison Zill[1], Michael Kueht[1], Muhammad Rawala[1], Ann Gamilla-Crudo[1], Syed Hussain[1], Muhammad Mujtaba[1]. [1]University of Texas Medical Branch

Belatacept is an inhibitor of the costimulatory pathway that can be used as an alternative to calcineurin inhibitor (CNI) in Donation after Cardiac Death (DCD) and/or high Kidney Donor Profile Index (KDPI) kidney transplant recipients due to concerns for toxicity. However, data is sparse to directly compare clinical outcomes with Belatacept-based regimens to CNI. We herein set forth to determine the effect of Belatacept on rejection and clinical outcomes in DCD and/or high KDPI kidney transplant recipients.

In this single-center retrospective study, we included patients who underwent DCD and/or high KDPI (≥85%) kidney transplantation between 2014 to 2020. Primary endpoint is biopsy-proven antibody mediated (ABMR) or T-cell mediated rejection (TCMR). Secondary endpoints include hospital length of stay (LOS), post-transplant donor-specific antibodies (DSAs), and