(HC). METHODS/STUDY POPULATION: We did chromatography-based HDL purification and SWATH-MS-based proteomic quantitation. Proteomic alterations of HDL fractions and their association with glycemic control was examined. Study population: 26 patients with T1DM and 13 HC. RESULTS/ANTICIPATED RESULTS: We quantified 78 proteins in isolated HDL, using mass spectrometry and label-free SWATH quantification. Youth with T1DM had significantly higher protein levels of A1BG (P = 0.008), A2AP (P = 0.0448), APOA4 (P = 0.0366), CFAH (P = 0.0476), FHR2 (P = 0.0005), ITIH4(P = 0.01), PGRP2 (P = 0.0167) and lower levels of ALBU (P = 0.0164) and CO3 (P = 0.019) compared to HC. A1BG (r=0.541, P<0.001) and ITIH4 (r=0.357, P = 0.026) were significantly positively correlated with HbA1c. DISCUSSION/SIGNIFICANCE OF IMPACT: Youth with T1DM have proteomic alterations of their HDL compared to HC, despite similar concentration of HDL cholesterol, that might affect the cardioprotective mechanisms of HDL. Future efforts should focus on investigating the role of these HDL associated proteins in regard to HDL function and their role in CVD risk in patients with T1DM.

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Academic influence in gynecologic oncology is associated with industry funding: an analysis of the Open Payments database

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OBJECTIVES/SPECIFIC AIMS: Industry payments to physicians can present a conflict of interest. The Physician Payments Sunshine Act mandates the disclosure of these financial relationships to increase transparency. Recent studies in other surgical specialties have shown that research productivity is associated with greater industry funding. In this study, we characterize the relationship between academic influence and industry funding among academic gynecologic oncologists. METHODS/STUDY POPULATION: Departmental websites were used to identify academic gynecologist oncologists and their demographic information. The Hirsch index (h-index) relates an author's number of publications to number of times referenced by other publications, a validated measure of an author's academic influence. This was obtained from the Scopus database. The Center for Medicaid and Medicare Services Open Payments online database was searched for all industry payments in 2017. The NIH Reporter online database was searched for active grants. Goodness of fit testing showed that all variables followed nonparametric distributions. Medians were compared using Mann-Whitney U tests and Kruskal-Wallis analysis of variance with post-hoc Dunn's test. RESULTS/ANTICIPATED RESULTS: Four hundred and sixty-six academic gynecologic oncologists were included in the analysis. In 2017, 89.7% of this group received industry funding totaling $41.4 million. Median industry funding was $453 [IQR $67-19684] and median h-index was 14 [IQR 8-26]. Only 8.1% of gynecologic oncologists were NIH grant recipients and they received significantly higher industry payments ($357 vs. 11,168, P<0.01). Gender and academic rank were not associated with industry funding. Gynecologic oncologists in the highest decile of industry funding received a median payment of $447,651[N=46, IQR $285,770 – 896,310] totaling $36.5 million. The median h-index for this top-earning decile was 23 [N=46, IQR 16.5-30.3]. When stratified by payment amount, median h index increased but only reached statistical significance in the highest cohort receiving >$100,000 (N = 63, P<0.05). DISCUSSION/SIGNIFICANCE OF IMPACT: The majority of academic gynecologic oncologists receive industry funding although there are large variations in payments. Those receiving the largest payments are more likely to hold NIH grants and have greater academic influence.

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Adiposity and Fibroblast Growth Factor 23 in nondiabetic patients with moderate-to-severe Chronic Kidney Disease

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OBJECTIVES/SPECIFIC AIMS: The main aim of this study was to investigate the relationship between measures of adiposity and FGF-23 in a sample of patients with CKD stages 3-4. METHODS/STUDY POPULATION: This study was a clinic-based cross-sectional investigation of 71 CKD patients who underwent body composition and anthropometric assessments as part of the relationship of insulin sensitivity in kidney disease and vascular health (RISKD) study. Dual energy x-ray absorptiometry (DEXA) scans were used to measure total fat mass and body mass index (BMI) was computed using baseline weight and height measurements. Biomarkers included serum FGF-23 (C-terminal), serum leptin, high sensitivity C-reactive protein (hsCRP), serum triglycerides, high density lipoprotein (HDL) cholesterol and total cholesterol. Creatinine-based estimated glomerular filtration rate (eGFR) was computed using the CKD-EPI equation. Multiple linear regression with robust standard errors was used to investigate the relationship between FGF2-3 and measures of adiposity (BMI, total fat mass and serum leptin). Log-transformation was performed for variables (FGF-23, hsCRP and serum lipids) with considerable skewness. RESULTS/ANTICIPATED RESULTS: The median age of the study participants was 68 (IQR: 60, 73) years; 26% were female and 23% were African-American. Median eGFR was 46.9 ml/min/1.73m2 (IQR: 41.9, 52.8), median BMI was 31 kg/m2 (IQR: 27, 35). Log FGF-23 had a significant positive correlation with BMI (r = 0.27, p = 0.02), total fat mass (r = 0.30, p = 0.01) and serum leptin (r = 0.43, p < 0.0001). After full adjustment for age, sex, race, eGFR, log hsCRP, log HDL and log triglycerides, a 50% increase in FGF-23 was associated with a 1 kg/m2 [95% CI: 0.1, 1.9; p = 0.03] increase in BMI, a 2.5 kg [95% CI: 0.2, 4.8; p = 0.03] increase in total fat mass and a 6.7 ng/mL [95% CI: 1.0, 12.4; p = 0.02] increase in serum leptin. DISCUSSION/SIGNIFICANCE OF IMPACT: In this sample of patients with moderate-to-severe CKD, we found a significant independent association between higher FGF-23 levels and higher adiposity (BMI, total fat mass and the pro-atherogenic adipocytokine, leptin). The underlying causes and the implications of these associations − particularly in bone and vascular health − need to be further investigated.

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Age and racial variation in the relation between blood lead level and asthma in children: Data from National Health and Nutrition Examination Survey 1999-2016

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OBJECTIVES/SPECIFIC AIMS: Lead (Pb) exposure can seriously affect nervous system and kidney. Young children are vulnerable to Pb exposure. However, the role of low-level Pb exposure in asthma