RESULTS
Out of 252 subjects, 52 %(n = 131) of the subjects had T2D. A positive correlation was observed between HIF-1α and HbA1c (rho = 0.295, P<0.001). Individuals with T2D had markedly higher median HIF1α levels compared with their non-T2D counterparts [207.1 (IQR:180.4–246.1) vs 155.1 (IQR:132.0–189.6) pg/ml; P<0.001)]. The association between natural log-transformed circulating HIF1α and T2D (outcome) remained significant even after adjusting for age, gender, body mass index and HbA1c (risk ratio: 2.63, 95% CI: 1.85–3.74, P<0.001).

CONCLUSION
To our knowledge, this is the first study to demonstrate an association between circulating HIF1α and T2D in people with severe obesity. Our data suggest that hyperglycemia may result in the accumulation of HIF1α protein, which may contribute to the development of T2D-associated complications. Hence, inhibition of HIF1α expression may exert beneficial effects on T2D and its complications.

PP-D-05

THE EFFECTS OF ADVERSE CHILDHOOD EXPERIENCES (ACE) ON THE DEVELOPMENT OF DIABETES MELLITUS (DM) AND PRIMARY HYPOTHYROIDISM IN ADULTS

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OBJECTIVES
Globally, diabetes mellitus (DM) and hypothyroidism are the leading endocrine disorders. The etiology of DM and hypothyroidism is complex and the influence of toxic stress on their development is yet to be explored. Few studies report high scores of adverse childhood experiences (ACE) in DM patients. Our study aims to investigate the effect of ACE on DM, insulin resistance (IR) and primary hypothyroidism in a local population and to understand its effects on the risk of developing these diseases in adulthood.

METHODOLOGY
A cross-sectional web-based study was conducted. We investigated 123 adults over 21 years old who were clinically diagnosed with DM, IR and primary hypothyroidism in Georgia using an ACE (scores ranging from 0-4+) survey and the CDC guidelines for risk factors for ACE.

RESULTS
Analysis showed that 42 participants had only one of the three endocrine disorders: 27 with DM, 7 with IR and 8 with hypothyroidism. On the other hand, 81 patients had 2 out of 3 disorders: 27 had DM and hypothyroidism while54 had hypothyroidism with IR. ACE score of 4+ was associated with increased odds of DM (OR = 2.51, 95% CI 5.32, 1.18) and hypothyroidism (OR = 1.34, 95% CI 3.04, 0.59). The ACE was not associated with IR (OR = 0.65, 95%CI 1.34, 0.31). However, in patients with both IR and hypothyroidism, a high ACE score was observed (OR = 1.78, Cl 95% 6.28, 0.51). Participants with concomitant DM and hypothyroidism had the strongest association with ACE (OR = 3.26, 95% Cl 9.29, 1.14).

CONCLUSION
Results of the study suggest that a high ACE score increases the risk for DM, hypothyroidism and IR with hypothyroidism. This opens new avenues to develop preventive and management strategies for these diseases.

PP-D-06

MEDITERRANEAN DIET FOR DIABETES MELLITUS TYPE 2 PREVENTION, A LESSON FROM 751,161 SUBJECT: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES
An unhealthy diet including excessive caloric intake and physical inactivity are strongly associated with future risk for type 2 diabetes (T2D). A meta-analysis by Esposito et al. showed that adoption of a healthy diet will decrease the risk of diabetes by 20%. An example of diet modification is the Mediterranean diet. Hence, we would like to determine the effect of the Mediterranean diet on the prevention of T2D.