with CV19. Past influenza history was unknown. Forty one percent (14/34) of pts, 11 M 50–86 yrs (mean 66.0) and 3 F 49–66 yrs (mean 59.0) did not plan to take the fluv. They explained their decisions as never having taken fluv (12 pts) or having been ill despite having taken it (2 pts). Neither accessibility nor cost were issues. Two F, 62 and 66 yrs, who refused fluv also refused CVv. Six M aged 60–86 yrs (mean 70.5) and 1 F aged 73 yrs were planning to wait to access real life safety (6pts) or efficacy (1pt) data before accepting CVv. All pts claimed to be following PH guidelines including social distancing, hand washing, and mask recommendations; 91.2% (31/34) fully agreed with PH policies, 2 were in moderate agreement and 1 thought PH policy was not strict enough. Of the latter 3 pts none planned on taking the fluv. One planned taking the CVv, 1 planned not to, and the 3rd planned to wait before deciding. Despite a long history of use, recommendations by experts, and free and easy accessibility, T2D pts questioned after the 1st wave of CV19 are not convinced of the fluv's importance. Despite high case numbers and being themselves at high risk, not all T2Ds are willing to unequivocally accept a potential Health Canada sanctioned CVv. This study underlines the important work HCPs have ahead in educating and reassuring pts with regard to vaccination.

Diabetes Mellitus and Glucose Metabolism

COVID-19 AND DIABETES

Usefulness of the Continuous Glucose Monitoring (Freestyle Device) to Assess Glycemic Control of Diabetic Patients With and Without COVID 19 in a Hospital of Bogotá Colombia

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In the context of the COVID19 pandemic, diabetes mellitus constitutes a main risk factor that increases overall mortality (1). The continuous glucose monitoring system (CGM) is an alternative that allows strict glucose monitoring and reduces the contact of the healthcare providers with the patients in the pandemic era. We conducted a study using CGM in COVID vs non-COVID patients hospitalized at the San José Hospital in Bogotá Colombia. **Methods:** Single center, prospective study of glucose monitoring in patients with and without COVID19 using the Freestyle system. We included patients of 18 years and older, hospitalized at Hospital San José de Bogotá, with diagnosis of diabetes and treated with insulin. We used the T student distribution to analize the data. Primary outcomes were the usefulness of the device in inpatients, and the clinical outcomes according to glucometric measures in patients with and without COVID19 infection. **Results:** CGM devices were placed on 30 patients: 10 with, and 20 without COVID. The system was feasible with good nurse acceptance. The age of the patients was between 18 and 90 years. Of the COVID positive patients, 30% required ICU and 10% died, the mean HBA1C was 9.5% (CI 95% 7.5–10.09%) with a general variability of 35.6%, only 3 patients archieved goals of time in range. The general glycemic index was 7.04% (CI 0.66-0.100)Of the non COVID patients, 10% required ICU and 10% died, the average variability was 30.9% and hypoglycemic episodes predominated in 3 patients. The general glycemic index was 6.6% (CI 0.61–0.71)The patients who required ICU had an average HBA1C of 10.4%, 80% received corticosteroid management during the hospital stay. No patient had skin or soft tissue infection at the sensor insertion site. **Conclusions:** During the COVID-19 pandemic, CGM is a useful method for glucometric control that reduces the contact of healthcare providers and allows early interventions to improve metabolic control. Worse outcomes are seen in patients with higher variability and with COVID infection. **References:** 1. Apicella M. Campopiano MC. Mantuano M. Mazoni L. Coppelli A. Del Prato S. COVID-19 in people with diabetes: understanding the reasons for worse outcomes. Lancet Diabetes Endocrinol.2020: 8; 782–92.

Diabetes Mellitus and Glucose Metabolism

DIABETES AND METABOLIC DISEASE IN WOMEN

Do GLP-1 Receptor Agonists Increase the Risk of Breast Cancer? A Systematic Review and Meta-Analysis

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Background: Risk of cancer is a major concern in the development of drugs for the treatment of obesity and diabetes. In randomized controlled trials (RCTs) of the liraglutide development program, a glucagon-like peptide-1 receptor agonist (GLP-1RA), subjects treated with the active drug had a higher absolute number of breast cancer events. Aim: To assess whether patients treated with GLP-1RAs had a higher risk of breast neoplasms. **Methods:** We searched MEDLINE, Embase, Web of Science, and CENTRAL from inception to February 8, 2020. Three pairs of reviewers examined and retrieved abstractsand full-text articles for RCTs of GLP-1RAs versus non-GLP-1RA controls(active or placebo) in adults with overweight, obesity, prediabetes, or diabetes,with a minimum follow-up period of 24 weeks and which reported at least oneevent of breast cancer or benign breast neoplasm. Divergences were dealt withby consensus. Researchers extracted study-level data and assessed within-study risk of bias with the RoB 2.0 tool and quality of evidence with GRADE. This study follows PRISMA reporting guidelines. **Results:** We included 52 trials, of which 50 reported breast cancer events and 11 reported benign breast neoplasms. Overall methodological quality was high. Among 48267 subjects treated with GLP-1RAs, 130 developed breast cancer compared to 107 of 40755 controls (relative risk [RR], 0.98; 95% confidence

interval [CI], 0.76 to 1.26). Subset analyses according to follow-up, participant/investigator blinding, and type of GLP-1RA did not reveal any differences. The risk of benign breast neoplasms also did not differ between groups (RR, 0.99; 95% CI, 0.48 to 2.01). Trial sequential analysis provided evidence that the sample size was sufficient to avoid missing alternative results. **Conclusion:** Treatment with GLP-1RAs for obesity and diabetes does not increase the risk of breast neoplasms. Register: This systematic review was preregistered in PROSPERO (CRD42019132704).

Diabetes Mellitus and Glucose Metabolism

DIABETES AND METABOLIC DISEASE IN WOMEN

Early Onset Acceleration of Fetal Growth in Gestational Diabetes Mellitus: Deciding About When and Whom to Screen for Preventing Fetal Macrosomia

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The precise time into pregnancy at which women are screened for gestational diabetes mellitus (GDM) is crucial for determining the benefits of diagnosis. However, this issue remains a source of intense debate among guidance authorities and there is no consensus about when and whom to screen. Since 2010, the *IADPSG* recommends universal screening with 75g OGTT at 24–28 weeks' gestation (WG), due to evidence of a positive linear correlation between maternal blood glucose levels around 28 WG and risk of fetal macrosomia. Nonetheless, emerging evidence indicates that initial acceleration of fetal growth (FG) related to GDM, predicting fetal macrosomia, is already underway at 20 WG, thereby suggesting that screening strategies for GDM earlier than the recommended 24–28 WG should be reconsidered (1). By exploiting the routine 19–21 WG obstetrical assessment of FG (anomaly scan), along with the risk stratification system endorsed by the Italian NHS, which offers, in addition to the usual GDM screening test at 24–28 WG, an early 75g OGTT at 16–18 WG to women who are classified as at high risk (HR) for GDM (i.e. previous GDM, pre-gravid obesity, or FPG at first prenatal visit between 5.6–6.9 mmol/L), we aimed to verify whether an early onset acceleration of FG related to GDM would be observed in our pregnant population, and if reversion could occur with current screening recommendations. For this, 769 consecutive women in singleton pregnancies, subjected to both anomaly scan and GDM screening, were retrospectively enrolled at our Institution between Jan 2018-Feb 2020. At a mean time of 20.8 WG, the percentiles of estimated fetal weight (EFW) and abdominal circumference (AC) were significantly higher in women who tested positive for GDM at late screening than in women with normal glucose tolerance (NGT). However, while no differences in the birthweight (BW) percentiles of neonates born to non-HR women diagnosed with GDM at 24–28 WG, with respect to NGT women were observed (p=0.416), neonates born to HR women diagnosed with GDM at 24–28 WG (due to refusal to comply with early screening advices) were significantly heavier (p<0.001). In contrast, both the EFW and AC percentiles, as well as the BW percentiles, were significantly lower in infants born to HR women diagnosed with GDM at 16–18 WG with respect to their late diagnosis counterparts (EFW p=0.001, AC p=0.002, BW p=0.048), and not dissimilar to those of NGT women (EFW p=0.824, AC p=0.873, BW p=0.242). These results were confirmed by regression analysis, while adjusting for maternal confounders. Although an initial acceleration of FG related to GDM can be detected at anomaly scan in non-HR women, reversion occurs with current screening recommendations. Earlier screening strategies should be reserved to HR women, as the acceleration of FG related to GDM in these cases is less responsive to treatment delays. (1) **Ref**: Li et al. Lancet Diabetes Endocrinol. 2020;8(4):292–300.

Diabetes Mellitus and Glucose Metabolism

DIABETES AND METABOLIC DISEASE IN WOMEN

Efficacy of High-Intensity Intermittent Training for Improving Cardio-Metabolic Health in Women With Polycystic Ovary Syndrome

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Polycystic ovary syndrome (PCOS) is a common and complex endocrinopathy with significant metabolic and reproductive manifestations, carrying a major health and economic burden. Consistent improvements in clinical outcomes have been reported as a result of exercise training, but shortfalls with exercise prescription are evident. Research suggests that high-intensity intermittent training (HIIT) is feasible, well tolerated and enjoyable for people with or at risk of chronic disease and can address many of the shortfalls and barriers to exercise participation. To investigate the effects of high-intensity exercise on cardio-metabolic health, twenty-four reproductive aged, overweight or obese, sedentary women with PCOS were recruited from the community and randomised to complete either 12 weeks of moderate intensity continuous cycling training (MICT; 60–65% of maximal heart rate [HR_{max}]; n=11) or HIIT (90–100% HR_{max}; n=13). All exercise was supervised by an exercise physiologist and completed 3 times per week on a cycle ergometer. Baseline and post-testing measures consisted of peak oxygen consumption (VO_{2peak}) determined by a graded maximal exercise test, body composition by DXA scan and insulin sensitivity determined by euglycaemic-hyperinsulinaemic clamp. Significant improvements in VO_{2peak} were seen after both HIIT (P <0.001) and MICT (P <0.013) with a significant between-group interaction favouring HIIT (P = 0.014). The insulin sensitivity index significantly improved after HIIT (P = 0.009) with no changes observed after MICT (P = 0.860), also resulting in a significant between-group difference favouring HIIT (P = 0.046). No changes were observed for body weight, BMI or fat mass, however, there was a significant increase in percentage of lean mass after