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decline of 0.26g/dl/day (range 0.217-0.317g/dl/day). No fetal or maternal mortality was observed in our series.

CONCLUSION: This study provides guidance as to the rate of Fhb decline post a varying number of IUT procedures, and observed a reducing rate of decline following successive transfusions. It also highlights the significant range of decline that exists between patients. Careful fetal monitoring between transfusions must remain a vital part of the management of HDFN.

Table 1. The Rates of Decline of Fetal Hemoglobin between Intrauterine Transfusion Procedures

IUT Episode	N	Gestational age Median (range)	Fhb g/dl Pre-IUT Median (range)	Daily rate of post-IUT decline Fhb g/dl Median (range)
1	46	29+1 (17+2-34+5)	6.95 (1.8-10.4)	0.44 (0.12-1.0)
2	31	29+4 (22+0-34+4)	8.9 (3.0-14.0)	0.29 (0.16-0.43)
3	16	32+0 (26+2-34+5)	9.8 (6.0-12.8)	0.26 (0.22-0.32)
4	5	31+4 (30+0-34+0)	9.1 (7.8-10.6)	

Table 1 Legend. IUT=Intrauterine transfusion. Hb= Hemoglobin.

433 Maternal hyperoxia and its effect on the ductus venosus



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OBJECTIVE: The ductus venosus(DV) Doppler waveform is a valuable tool in the assessment of any fetal condition that may affect forward cardiac function. We sought to investigate the effects of maternal hyperoxygenation(MH) on the DV Doppler in the third trimester.

STUDY DESIGN: Forty-six women with a singleton pregnancy ≥ 31 weeks' gestational age(GA) were prospectively recruited.The DV Doppler was obtained at the isthmus, near its origin from the umbilical vein in a mid-sagittal view. A Doppler assessment of the umbilical artery (UA) was also performed. Doppler measurements were taken at baseline and following MH for 10minutes.Measurements of mean systolic, diastolic and 'a' wave velocities as well as pulsatility index for veins (PIV), preload index (PLI) and peak velocity index for veins (PVIV) ratios were obtained.

RESULTS: Satisfactory DV Doppler recordings were obtained from 59% of participants.Qualitative assessment of the DV waveform confirmed a positive 'a' wave in all fetuses. DV mean systolic, diastolic and 'a' wave velocities increased following MH.The DV Doppler ratios including PIV, PLI and PVIV did not change in response to MH (Table 1).There were no changes in the resistance of the UA in response to MH.

CONCLUSION: The DV responds to MH. Due to the increase in systole,diastole, and atrial contraction contemporaneously, the ratios between these elements were unchanged. As gestation advances the PIV and a-wave-related ratios decrease owing to a decrease in utero-placental resistance and an increase in cardiac compliance and contractility. We have demonstrated no change in the utero-placental resistance indices, therefore the most likely explanation is a constriction of the DV, suggesting that the DV is responsive to alterations in oxygen tension in the fetal blood.The decrease in the DV calibre in response to MH infers that the size of the DV is directly responsible for the shunting of umbilical venous blood away from the hepatic circulation.These findings warrant further investigation in relation to the effect of MH on myocardial function particularly in the context of congenital cardiac disease.

Table 1 Changes in Ductus Venosus and Umbilical Artery Doppler Measurements in Response to Maternal Hyperoxygenation

DV Measurement n=27	Pre-MH	Post-MH	p-value
Diastole cm/s	52.1 ± 5.7	55.8 ± 5.6	0.02
A wave cm/s	31.5 ± 6.4	36.1 ± 6.6	0.01
PIV	0.84 ± 0.21	0.89 ± 0.21	0.39
PLI	0.58 ± 0.14	0.54 ± 0.13	0.28
PVIV	0.60 ± 0.11	0.57 ± 0.15	0.40
UA Measurement n=46	Pre-MH	Post-MH	p-value
UA PSV cm/s	39.8 ± 10	41.6 ± 11	0.28
UA EDV cm/s	16.1 ± 6	16.2 ± 5	0.85
UA T _{max} cm/s	26.1 ± 7.5	26.9 ± 7.1	0.60
UA PI	0.96 ± 0.25	0.99 ± 0.23	0.55
UA RI	0.61 ± 0.09	0.62 ± 0.08	0.58

Abbreviations: Pre-MH, pre maternal hyperoxygenation; Post-MH, post maternal hyperoxygenation; PIV pulsatility index for veins; PLI, preload index; PVIV, peak velocity index for veins; UA, umbilical artery; PSV, peak systolic velocity; EDV, end diastolic velocity; T_{max}, time-averaged maximum velocity; PI, pulsatility index; RI, resistance index. Values reported are means ± SD.

434 Asymptomatic covid-19 in pregnancy – does “lockdown” work?



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OBJECTIVE: Since Covid-19 emerged it has become one of the toughest challenges our healthcare systems have faced worldwide. One of the most difficult problems has been identifying asymptomatic positive patients who are unknowingly infecting others. Some studies have stated this may be the case for up to one third of the population. Within Ireland, a nationwide lockdown commenced on 27th March, lasting until May 18th then slowly eased. The measures taken included advising all at-risk groups, including pregnant women, to stay home. In our institution a screening program began to identify these asymptomatic positive cases, so they may be treated and isolated appropriately if found. We sought to examine the prevalence of Covid-19, and how it changed over time as lockdown restrictions eased, among asymptomatic elective admissions to a large university teaching hospital.

STUDY DESIGN: We included all women presenting for induction of labor(IOL), elective caesarean delivery(CD) and elective gynecology surgical admissions in a university teaching hospital in an area of high Covid-19 prevalence (our capital city) from 13th March until 1st September 2020. Data was gathered from hospital records and charts were checked for Covid-19 swab results.

RESULTS: 2,359 women were included in this retrospective cohort study. 1,980 were pregnant. Among the elective admissions for IOL or CD there were 9 positive tests, a prevalence of 0.45%. Among the 379 elective gynecology admissions there were 2 positives – a prevalence of 0.52%. Among this entire cohort the overall prevalence was 0.47%. The cases began to emerge in April, with 5 asymptomatic positive cases, a further 3 in June and 3 more in July. The geographical spread of cases ranged from 2-16 miles from the hospital.

CONCLUSION: It is reassuring that our population displayed a low prevalence of asymptomatic Covid-19, and with easing of restrictions from May 18th onwards, that numbers remained low. What we can conclude is that not only do pregnant women, and those anticipating surgery adhere to guidelines, but these guidelines did work in protecting our vulnerable population.

435 Blood lipid profiles in early pregnancy are associated with fetal growth trajectories

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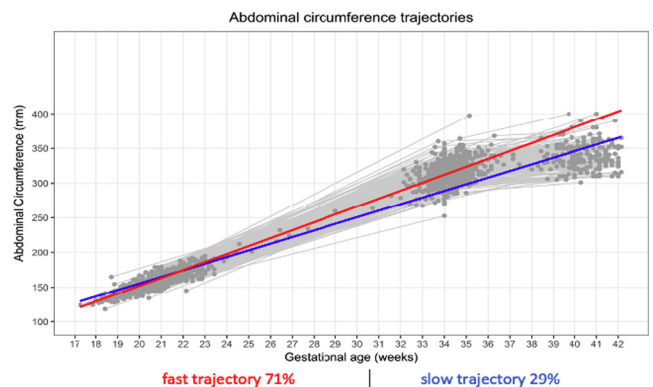
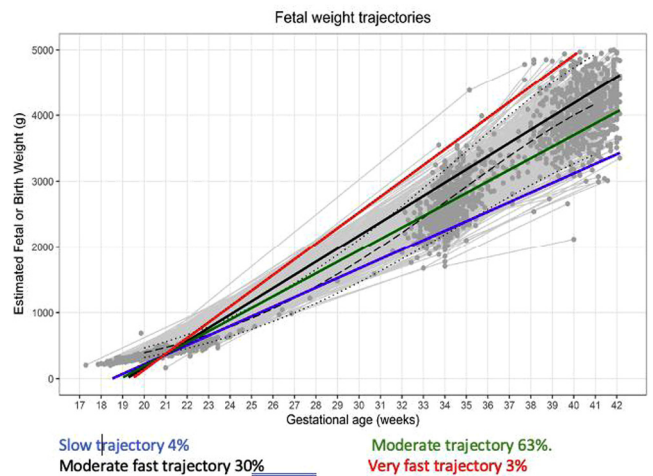
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OBJECTIVE: An unfavourable in utero environment is associated with increased risk of adult disease, according to the Barker Hypothesis. Maternal triglyceride levels significantly change throughout gestation, contributing to the in-utero environment. This study aimed to determine preliminary associations between triglycerides in early pregnancy and fetal growth trajectories.

STUDY DESIGN: This is secondary analysis of the ROLO pregnancy dietary study, involving 548 secundigravida women. Fasting blood samples were measured in early pregnancy (mean 12.79weeks). Latent class trajectory modelling determined growth trajectory classes for estimated fetal weight (very slow, 3.8%, moderately slow 28.6%, moderately fast, 65.0% and very fast, 2.6%), and abdominal circumference (AC; slow, 31.4%, fast, 38.6%). Fetal measurements were taken in utero at 20 and 34 weeks, and at birth for inclusion in trajectory modelling. Independent sample T-tests and Mann Whitney U tests established associations between total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C) and triglycerides (TGs) with each growth trajectory class.

RESULTS: 578 women were included in this analysis, 45% of which were in the original dietary intervention group. Women were on average 32 years with a mean BMI of 25.5kg/m². 50% of infants born were male and average birthweight was 4,020g. Increased 1st trimester HDL-C was associated with a slow AC trajectory (0.83 vs. 0.66 p<0.001). Increased triglyceride levels in the first trimester were associated with a very fast weight trajectory class (0.92 vs. 1.15 vs. 1.09 vs. 1.70; p=0.011). No other associations were found between TGs, HDL-C, LDL-C and TC and fetal growth.

CONCLUSION: Our preliminary results suggest triglycerides levels are associated with fetal growth trajectories. This suggests dietary manipulation holds potential for altering fetal growth programming and warrants further investigations.



436 Diet for mental health in pregnancy: nutrients of importance based on large observational cohort data

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OBJECTIVE: The Barker hypothesis suggests an adverse environment in utero predisposes offspring to greater risk of metabolic syndrome in later life. Therefore, it is important to optimise maternal health in terms of diet and well-being, to facilitate better health outcomes for mother and child. We aimed to determine associations between dietary intakes and well-being in a pregnant cohort.

STUDY DESIGN: This is retrospective cohort analysis of a combination of 3 studies; The ROLO Study (a Randomised cOntrol trial of a LOW glycaemic index diet in pregnancy), the PEARS study (Pregnancy Exercise And nutrition Research Study with smartphone app support) and an RCT of a probiotic study. All data were collected prior to intervention (approx. 16 weeks). 3 day food diaries were used to determine dietary intakes. The WHO-5 item Well-Being Index was used to determine mental well-being. Initial associations were determined using Pearson correlations, and further defined using multiple regression analysis adjusted for age, BMI, HP index and METs.

RESULTS: There were 1521 women included in the analysis; mean age 32 years and BMI 27kg/m². 96% were Caucasian and 60% had 3rd

