of physiological placentation; it is highly expressed in placental syncitio-trophoblasts, whereas its receptor is expressed in both syncitio- and cyto-trophoblasts, such that kisspeptin is hypothesized to play an important paracrine role to regulate placentation. Circulating kisspeptin levels are considerably raised during healthy pregnancy and are reduced in women with miscarriage.
Aim:
We aimed to investigate the utility of circulating kisspeptin concentrations in the assessment of pregnancy complications and assess whether kisspeptin provides additional diagnostic information compared to beta human chorionic gonadotropin (βhCG) alone.
Methods:
This study was performed in collaboration with the Early Pregnancy Outcome Study (EPOS), which aims to identify novel pregnancy biomarkers. Women were invited to attend every fortnight for blood-sampling, clinical and ultrasound assessment during the first trimester, and repeated during the second and third trimesters. Asymptomatic women with healthy pregnancy (n=265) provided 960 blood-samples. Women with pregnancy complications including miscarriage (n=95), pre-eclampsia (PET; n=24), pregnancy induced hypertension (PIH; n=14), gestational diabetes (GDM; n=41), preterm birth (PTB; n=14) and intrauterine growth restriction (IUGR; n=24) provided 569 blood-samples.
Results:
Gestation-adjusted circulating kisspeptin and βhCG levels were lower, by 66% and 57%, respectively, in women with miscarriage compared to healthy pregnant controls (p<0.0001). Area under ROC curve for diagnosis of miscarriage was greater for the combination of both kisspeptin and βhCG together (0.92) than for either measure alone (βhCG 0.859, kisspeptin 0.874). An adjusted logistic regression model revealed that an 100pmol/L increase in plasma kisspeptin reduced the odds of miscarriage by 42%. Gestation-adjusted kisspeptin levels were lower in women with GDM (P=0.002), or IUGR (P<0.0001), and higher in women with PTB (P=0.004). Kisspeptin increased with gestation greater in PET (P=0.008) and PIH (P<0.0001) than in healthy controls.
Conclusions:
Plasma kisspeptin is a promising biomarker for pregnancy complications and provides additional diagnostic capability over that provided by βhCG alone.

Bone and Mineral Metabolism

PARATHYROID HORMONE TRANSLATIONAL AND CLINICAL ASPECTS

Clinical and Biochemical Characterization of Risk Factors for Vertebral Fractures in Patients with Hypoparathyroidism

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SAT-389

Background: Persistent hypoparathyroidism (PH) is a rare disease due to an impaired secretion of PTH, mostly occurring as a complication of total thyroidectomy. Calcium and calcitriol are currently the most common and inexpensive therapies, although not all the patients easily achieve control of the disease. Recently, our group has reported that BMI at diagnosis can predict calcitriol resistance in PH. Very few studies have been performed with fractures as primary endpoint in hypoparathyroidism, and we still not know if PH could be predisposing to an increased risk of morphometric fractures and possible clinical and biochemical predicting factors. **Patients and methods**: To that end we retrospectively evaluated the anthropometric, biochemical and fracture characteristics in 71 consecutive patients with PH (F/M= 62/9; median age 58.7 yrs, range: 29-87; 67 with post-surgical PH and 4 with autoimmune PH). All patients were hypoparathyroid from at least one year (median duration of disease: 9 yrs., range: 1-41) and were under standard treatment with calcium and active vitamin D analogs (calcitriol). For each patient anthropometric data (BMI=kg/m^2; N= Normal weight patients <25; OO= Obese and overweight patients with BMI > 25) were collected, as well as biochemical parameters, such as calcium (mg/dl) and 25 OH vitamin D (25OHD expressed as ng/ml). We considered well controlled (C) patients with calcium between 8.2 and 9.2 mg/dl and not controlled (NC) under 8.2 or above 9.2 mg/dl. Vertebral fractures (VF) were assessed by a quantitative morphometric approach by using images provided by DXA and classified according to Genant classification. **Results**: Thirteen out of 71 patients (18%) were fractured. We showed a positive linear correlation in the overall population between BMI and calcitriol intake (p=0.006, CI 95% [1.2-6.9]) while no significant difference in prevalence of VF in OO vs N group (8/40 vs 5/31, p=0.76) was found. However, almost half (6/13, 45%) of patients with VF were OO NC. Moreover, 86% of NC vs only 30% of C fractured patients (6/7 vs 2/6) were OO **Discussion**: We report a high prevalence of VF in hypoparathyroidism. Moreover, we confirm that increased BMI is associated with higher needs of calcitriol to obtain calcium control. Interestingly, our data suggest for the first time that OO hypoparathyroid patients with NC disease are those at highest risk of fracture. Therefore, in this subset of patients a more intensive and proactive biochemical and bone monitoring should be adviced if these results will be confirmed in larger studies.

Steroid Hormones and Receptors

STEROID BIOLOGY AND ACTION

Plasma Glucocorticoids and Mineralocorticoids Are Associated to Metabolic Syndrome Features in Women

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SAT-740

Background: Excess visceral adipose tissue accumulation on anatomical structures such as the greater omentum and mesentery are strong predictors of obesity-associated comorbidities (1). High glucocorticoid levels have been associated with body fat distribution and preferential visceral fat accumulation as well as features