term labour arrested by tocolysis. This trial sought to test that hypothesis.

STUDY DESIGN: This open-label multicentre randomised controlled trial took place at 13 French university hospitals and included women with singleton pregnancies admitted at 24+0 through 31+6 weeks of gestation with a cervical length <25 mm for an episode of preterm labour that was then successfully arrested by tocolytic treatment. A course of betamethasone 12 mg, repeated after 24 hours, was given intramuscularly in all patients. Women were randomly assigned (by a centralised, computer-generated randomisation process) in a 1:1 ratio to receive either 500 mg of intramuscular 17 alpha-hydroxyprogesterone caproate (17P), started after tocolysis ended and repeated twice weekly until 36 weeks or until preterm delivery, or no treatment with 17P. Additional management in the two arms was left to the discretion of the attending physician, except that progesterone was not allowed in the control group. The primary outcome was time from randomisation to delivery, assessed according to the intention-to-treat principle.

RESULTS: A total of 188 women were randomised. The two groups were similar with respect to baseline characteristics. Outcome data were available for 184 women. There was no significant difference between the 17P and control groups in median [Q1-Q3] time to delivery (64 [42-79] and 67 [46-83] days, respectively; mean difference, -2; 95% confidence interval, -9 to +6) or in the rates of delivery before 37 (39% and 38%, p>0.99), 34 (16% and 20%, p=0.57), or 32 (9% vs 14%, p=0.35) weeks of gestation. Finally, rates of adverse perinatal outcomes did not differ significantly between the groups.

CONCLUSION: Biweekly injections of 500 mg of 17P did not prolong pregnancy significantly in women with an episode of preterm labour successfully arrested by tocolytic treatment.

4 Molecular inflammation in early pregnancy precedes structural remodeling of adipose tissue

Sylvie Hauguel-de Mouzon[1], Veronica Resi[2], Subhabrata Basu[1], Larraine Presley[3], Patrick Catalano[4], Bram Kaufman[5]

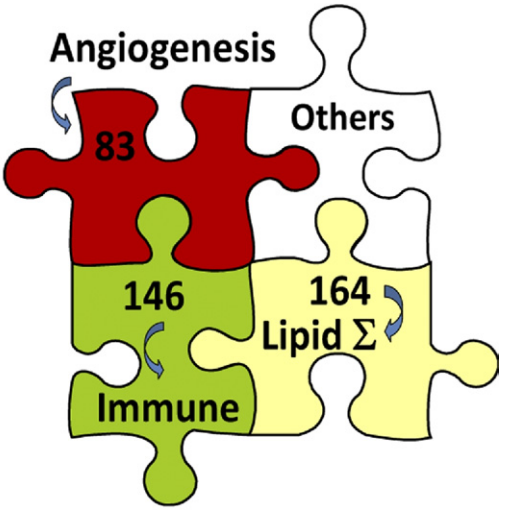
[1]Case Western Reserve University at MetroHealth Medical Center, OBGYN, Cleveland, OH, [2]MetroHealth Medical Center, OBGYN, Cleveland, OH, [3]MetroHealth Medical Center, OB/GYN, Cleveland, OH, [4]MetroHealth Medical Center - Case Western Reserve University, Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, Cleveland, OH, [5]Department of Plastic Surgery, MetroHealth Medical Center, Case Western Reserve University, Cleveland, OH

OBJECTIVE: Adipose tissue (AT) remodeling contributes to adaptations of maternal metabolic homeostasis during pregnancy. Early gestation is an anabolic condition with accrual of maternal adipose stores to meet the feto-placental and maternal later energy demands. The aim of this study was to characterize the molecular mechanisms responsible for adipose tissue remodeling in early pregnancy.

STUDY DESIGN: Women with healthy pregnancies were recruited pregravid (P) and followed-up in early (8-12 weeks) and late (36-38 weeks) pregnancy. The metabolic profile and body composition were obtained pre-gravid (P), in early (E) and late (L) pregnancy. AT biopsies were by liposuction in the subcutaneous gluteal depot. The AT transcriptome was examined by microarray profiling and RT-PCR.

RESULTS: BMI, fat mass, adipocyte volume, adipocyte cellularity and insulin resistance index were increased at L (p<0.001) and unchanged at E compared to P. The AT transcriptome encompassed 7612 genes among the 22,278 genes surveyed. The AT transcriptome exhibited significant modification at E compared to P with 15 % genes showing changes in their level of expression (645 increased and 641 decreased) between 1.5 and 10-fold. A strong activation of lipogenic pathways was indicated by genes in the lipid cluster (ATP citrate lyase, stearoyl-CoA desaturase, fatty acid synthase, lipoprotein lipase). Immune related genes pointed to the recruitment of LPS-sensing pathways (lipopolysaccharide binding protein, CD14, Toll-like receptor 4, NFkB) and macrophage activation (CD68, IL6, CSF). Enhanced angiogenesis was suggested by increased in angiopoietin, VEGFA, VCAM-1, MMP14, fibronectin.

CONCLUSION: Early pregnancy is characterized by a combination of molecular events which precedes the phenotypic changes of adipose tissue and body composition. The activation of immune pathways and angiogenic networks are novel findings. Our data suggest that early inflammation and vascular growth prepare AT remodeling in order to meet nutritional needs of mother and fetus at later stages of pregnancy. Supported by NICHD-22965-19



Gene categories over-represented
>1.5 fold in E vs. P (p<0.001)

5 Pregnancy after LEEP: results of a multicenter study

George A. Macones[1], Alison Cahill[1], David Stamilio[1], Kimberly Roehl[1], Anthony Odibo[1]

[1]Washington University in St. Louis, Department of Obstetrics and Gynecology, St. Louis, MO

OBJECTIVE: To assess the association between pre-pregnancy LEEP, pregnancy loss prior to 20 weeks and preterm birth.

STUDY DESIGN: A 7-year, multicenter cohort study of reproductive-aged women who underwent LEEP, PAP smear, or cervical punch biopsy without LEEP between 2000-2006. Subjects were identified by review of pathology records at 9 hospitals (both community and tertiary). Pathology records for all procedures were obtained, and all medical records for pregnancy (pre and post LEEP/Pap/punch biopsy) were obtained and reviewed in detail. Trained research nurses conducted closed-ended phone interviews with all subjects to complete historical and medical data extraction unavailable in charts. Pregnancy outcomes of women with prior LEEP were compared to 2 control groups: 1) prior Pap-only, 2) prior cervical punch biopsy using standard bivariate and multivariate techniques. We estimated a priori that we would need at least 600 women per group, based on an incidence of preterm birth <34 weeks of 4%, alpha error=0.05, beta error= 0.2, and a minimum detectable relative risk of 2.0.

RESULTS: We enrolled 625 women with a prior LEEP, 602 with a prior cervical punch biopsy, and 616 with a prior Pap smear. There were 45/616 (7.3%), 48/625 (7.7%) and 33/602 (5.5%) preterm births <34 weeks in the Pap, LEEP and punch biopsy groups respectively. There was no association between LEEP and loss prior to 20 weeks or preterm birth (Table), even after adjusting for (age, ethnicity, BMI, smoking, and prior preterm delivery).

CONCLUSION: Contrary to prior publications, in this large, well-characterized, generalizable cohort, LEEP is not associated with subsequent adverse pregnancy outcome. Subjects with prior LEEP do not