greater in PCOS than controls ($p \leq 0.0001$ in all cases). Serum fasting insulin levels were also greater among the BMI groups: <20, 20-24.9, 25-29.9 ($p \leq 0.01$ in all cases), when PCOS and controls were compared. However, among the PCOS and controls with BMI of 30-39.9 and ≥40 the fasting insulin levels did not differ (p=0.10, p=0.37, respectively).

Table: Rates of DMII as a function of BMI in PCOS and Controls

BMI (KG/m2)	<20	20-24.9	25-29.9	30-39.9	≥40
PCOS	N=21	N=52	N=113	N=104	N=20
DMII	0%	1.9%	0.9%	7%	50%
Controls	N=12	N=46	N=34	N=36	N=7
DMII	0%	2.2%	3%	11%	14%
p=		0.99	0.36	0.40	0.049

CONCLUSION: DMII is extremely rare in women irrelevant of PCOS status when BMI <20kg/m^2. Rates of DMII remain stable between BMI of 20 to 29.9 kg/m^{2}and were similar in controls and PCOS women. The frequency of DMII rose in both groups with increasing weight at a BMI over ≥30 kg/m2. Women with morbid obesity and PCOS had an increased risk of becoming diabetic. Overall this study indicates that an OGTT should be a routine part of care in PCOS women and those seeking fertility care with BMI >20 kg/m^2.

P-695 Wednesday, October 16, 2013

PREGNANCIES IN PCOS: FINDINGS FROM A HIGH FECUNDITY POPULATION. E. B. Johnstone, E. Prendergast, A. Moore, A. O. Hammoud, J. Dorais, C. M. Peterson. Obstetrics and Gynecology, University of Utah, Salt Lake City, UT.

OBJECTIVE: While anovulation and infertility are common in polycystic ovary syndrome (PCOS), past research (Hudecova et al, 2009) found women with PCOS to have similar numbers of children to women in the general population. We sought to replicate this finding in a high-fecundity population (Utah residents), and assess for differences in timing of births and pregnancy complications in women with PCOS and their first degree relatives.

DESIGN: Retrospective matched cohort.

MATERIALS AND METHODS: 43 women with PCOS (1990 NIH criteria) and 67 unaffected first degree relatives were each matched on age and sex to 10 controls from the Utah Population Database (UPBD). UPDB birth certificates were analyzed to determine number of children born to each individual, and obtain birth data. Pregnancy timing and outcomes data were compared between cases and controls using non-parametric statistics (Mann-Whitney U); similar comparisons were made between unaffected relatives and their respective controls. Chi-square statistics were used to assess differences in proportions.

RESULTS: Women with PCOS were less likely to have children. They were 4.5 years older at first birth, and had 0.6 fewer children per woman than controls. First degree relatives had a small increase in stillbirths, but obstetrical histories were otherwise similar to matched controls.

Birth Histories by Group

	PCOS	Matched controls	p-value	Relatives	Matched Controls	P-value
One or more births	56%	75%	0.006	78%	66%	0.05
Total number of births	2.17	2.87	0.009	3.96	3.06	0.07
Number of stillbirths	0	0.02	0.50	0.04	0.08	0.03
Age at first birth (years)	27.2	22.7	0.0001	24.0	24.6	0.71
Age at last birth (years)	28.4	30.1	0.26	31.4	30.4	0.35
Interdelivery interval (years)	2.7	3.1	0.74	2.4	3.1	0.17
Birth weight (g)	3408	3263	0.09	3393	3298	0.07
Gestational hypertension	19%	4.9%	0.01	1%	4.4%	0.15
Diabetes	9.5%	5.9%	0.32	2.6%	3.7%	0.70

CONCLUSION: In a high fecundity population, women with PCOS are less likely to have children. They initiate childbearing later and have fewer children compared with age matched controls.

P-696 Wednesday, October 16, 2013

CINNAMON SUPPLEMENTATION IMPROVES MENSTRUAL CYCLICITY IN WOMEN WITH POLYCYSTIC OVARY SYNDROME. D. H. Kort, C. Sullivan, A. Kostolias, J. C. DePinho, R. A. Lobo. Obstetrics and Gynecology, Columbia University, New York, NY.

OBJECTIVE: Cinnamon was shown previously to reduce insulin resistance (IR) in women with polycystic ovary syndrome (PCOS). The objective of this study is to determine the effect of cinnamon supplementation on menstrual cyclicity in women with PCOS.

DESIGN: Randomized, controlled, double-blinded clinical trial.

MATERIALS AND METHODS: Patients 18-38 years old with PCOS (Rotterdam criteria) were screened and voluntarily enrolled in an IRB-approved, randomized, controlled clinical trial (NCT-01483118). Patients were randomized in a 1:1 fashion to receive either cinnamon supplements (1500 mg/day Cinnulin PF®, Integrity Nutriceuticals) or placebo for the 6 month study period. Diet and activity levels were monitored and patients completed monthly menstrual calendars. A 75 gram glucose tolerance test was performed at baseline and 6 months. Menstrual frequency was compared between the two groups using independent samples t-test.

RESULTS: A total of 63 patients were screened and 45 patients were enrolled. 16 patients completed the 6 month trial (11 Cinnamon, 5 Placebo). Baseline menstrual cyclicity (# cycles/6 months) was similar between experimental and control groups (2.54 +/- .28 vs. 2.30 +/- .41). After six months of intervention, women receiving cinnamon had significant improvement in menstrual cyclicity compared to controls (# cycles/6 months = 3.82 +/- .40 vs. 2.20 +/- .66; p = .047). Women receiving Cinnamon supplementation had significant improvement in menstrual cyclicity from baseline {increase in # cycles/6 months = + 1.27 (0.127 – 2.418)} while women receiving placebo had no significant change in menstrual cyclicity. Ovulatory function was documented in some women and 2 women with longstanding menstrual irregularity reported spontaneous pregnancies after 3 months.

CONCLUSION: Cinnamon supplementation may increase menstrual cyclicity in women with PCOS.

P-697 Wednesday, October 16, 2013

CHEMERIN AS A MARKER OF BODY FAT AND INSULIN RESISTANCE IN WOMEN WITH POLYCYSTIC OVARY SYNDROME (PCOS). D. H. Kort, C. Sullivan, J. DePinho, A. Kostolias, M. Ferin, R. A. Lobo. Obstetrics and Gynecology, Columbia University, New York, NY.

OBJECTIVE: Chemerin, an adipokine produced in part by adipose tissue, relates to insulin resistance and may inhibit folliculogenesis. We wished to compare fasting serum levels of chemerin with those of more established adipokines: leptin, adiponectin, and omentin.

DESIGN: Prospective evaluation of parameters in women with PCOS and controls.

MATERIALS AND METHODS: 45 women ages 18-38 with PCOS by Rotterdam criteria and 23 controls ages 26-44 were recruited. Fasting blood was obtained and insulin resistance was assessed by quantitative insulin sensitivity check index (QUICKI), homeostasis model of insulin resistance (HOMO-IR), and 75 gram glucose tolerance testing (GTT). Chemerin, leptin, adiponectin, and omentin were measured by established assays. Body mass index (BMI) was calculated and abdominal subcutaneous fat was measured by ultrasound. Statistical analyses were carried out using