

Unilateral versus bilateral PCO. A prospective study of infertility patients comparing those with unilateral, bilateral and no PCO with regards to BMI and cycle regularity

Introduction: PCO is evident on ultrasound in 20% of reproductive aged women. Studies comparing women with unilateral versus bilateral PCO have not been performed on women seeking infertility investigation. We hypothesized that there would be a difference in cycle regularity between patients with and without PCO and between patients with unilateral versus bilateral PCO. We further suggest that there may be differences in BMI in the various groups.

Methods: From October 2010 to March 2011 we performed full initial imaging infertility investigations on 2626 consecutive women at an academically-oriented private practice in Ontario. Using the ESHRE-ASRM PCOS Rotterdam Consensus Criteria (12 follicles, or 10cc in either/both ovaries) we determined whether the patient had unilateral, bilateral, or no PCO. BMI (height/weight) and cycle regularity were self-reported. Chi Square Tests of Independence and one-way ANOVA were performed to compare the samples.

Results: Of 2626 consecutive infertility patients, 1055 (40.2%) had PCO, of which 302 (11.5%) had unilateral, 753 (28.7%) had bilateral. A difference in cycle regularity was statistically significant between both PCO versus no PCO and between unilateral versus bilateral PCO ($\chi^2 = 123.83$, $df = 1$, $P < 0.01$). BMI was statistically significant between those patients with PCO versus no PCO, but did not show statistical significance comparing patients with unilateral versus bilateral PCO [$F(1,1053) = 3.21$, $P = 0.07$].

	No PCO	Unilateral	Bilateral	Significance
# of patients	1571	302	753	
BMI	24.4	25.1	25.8	$P < 0.01$
% Irregular cycles	12.2 %	32.5 %	69.7 %	$P < 0.01$

Conclusions: This is the first study comparing unilateral versus bilateral PCO in infertility patients. While BMI was significantly different between patients with or without PCO, there was no significant difference in BMI between those with unilateral versus bilateral PCO. With regards to cycle regularity, there was a significant difference between those with and without PCO and between those with unilateral versus bilateral PCO.