

Indirect Predictors of Visceral Adipose Tissue in Women with Polycystic Ovary Syndrome: A Comparison of Methods

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Table S1. Limits of detection of assessed hormones (electrochemiluminescence (ECLIA), Cobas 6000 equipment, Roche Diagnostics, Switzerland)

Hormone	Limit of detection
AMH (pmol/l)	0.214
DHEAS (µg/dl)	0.100
E2 (pg/ml)	5
FSH (mIU/ml)	0.100
Insulin (µIU/ml)	0.2
LH (mIU/ml)	0.100
SHBG (nmol/l)	0.350
T (nmol/l)	0.087

AMH - *Anti-Müllerian hormone*; DHEAS - *dehydroepiandrosterone sulfate*; E2 - *estradiol*; FSH - *follicle-stimulating hormone*; LH - *luteinizing hormone*; SHBG - *sex hormone binding globulin*; T - *total testosterone*.

Table S2. Comparison between study (PCOS) and control (CON) samples age groups (median \pm interquartile range [IQR] or percentage).

variable	PCOS ₁₈₋₃₀ n=122	PCOS ₃₀₋₄₀ n=32	P value PCOS ₁₈₋₃₀ / PCOS ₃₀₋₄₀	CON ₁₈₋₃₀ n=49	CON ₃₀₋₄₀ n=19	P value CON ₁₈₋₃₀ / CON ₃₀₋₄₀	P value PCOS/ CON ₁₈₋₃₀	P value PCOS/ CON ₃₀₋₄₀
Age (yrs)	23.8 \pm 5.1	32.4 \pm 4.6	***	23.3 \pm 2.7	33.2 \pm 3.9	***	NS	NS
weight (kg)	65.00 \pm 20.00	71.50 \pm 20.50	NS	62.50 \pm 12.50	77.00 \pm 10.00	**	NS	NS
BMI (kg/m ²)	23.49 \pm 7.44	24.87 \pm 7.84	NS	22.01 \pm 4.25	28.71 \pm 6.06	*	NS	NS
WC (cm)	77.00 \pm 19.00	84.00 \pm 15.00	NS	72.00 \pm 12.00	84.50 \pm 14.00	**	NS	NS
WHR (-)	0.88 \pm 0.10	0.91 \pm 0.12	NS	0.87 \pm 0.09	0.92 \pm 0.07	*	NS	NS
WHtR (-)	0.46 \pm 0.11	0.50 \pm 0.13	NS	0.43 \pm 0.07	0.50 \pm 0.10	NS	NS	NS
WHT.5R (-)	0.59 \pm 0.15	0.65 \pm 0.14	NS	0.56 \pm 0.09	0.65 \pm 0.11	**	NS	NS
A/G ratio (-)	0.35 \pm 0.21	0.35 \pm 0.23	NS	0.32 \pm 0.17	0.41 \pm 0.20	NS	NS	NS
VAT mass (g)	251.43 \pm 521.73	496.96 \pm 736.70	NS	174.76 \pm 287.00	675.94 \pm 426.13	***	NS	NS
TBF (%)	0.35 \pm 0.12	0.36 \pm 0.11	NS	0.33 \pm 0.12	0.37 \pm 0.10	NS	NS	NS
FMI (kg/m ²)	8.06 \pm 4.44	8.99 \pm 5.24	NS	7.55 \pm 3.50	10.63 \pm 4.84	NS	NS	NS
LAP (-)	13.95 \pm 25.68	23.32 \pm 47.25	NS	12.00 \pm 9.06	29.95 \pm 38.48	NS	NS	NS

VAI (-)	0.81 ± 0.85	1.07 ± 1.68	NS	0.91 ± 0.65	1.32 ± 1.17	NS	NS	NS
SBP (mmHg)	120.00 ± 19.00	122.00 ± 21.00	NS	121.00 ± 22.00	125.00 ± 18.00	NS	NS	NS
DBP (mmHg)	74.00 ± 22.00	78.00 ± 8.00	NS	76.00 ± 14.00	76.00 ± 19.00	NS	NS	NS
Glucose (mg/dL)	88.00 ± 8.00	94.00 ± 8.50	***	87.00 ± 11.00	89.50 ± 6.00	NS	NS	NS
Insulin (μU/ml)	9.06 ± 6.78	9.75 ± 8.50	NS	9.38 ± 3.78	10.50 ± 7.41	NS	NS	NS
HOMA-IR	1.96 ± 1.68	2.20 ± 2.21	NS	1.92 ± 0.96	2.04 ± 1.78	NS	NS	NS
TC (mg/dL)	176.00 ± 38.00	186.50 ± 55.00	NS	162.00 ± 42.00	175.50 ± 51.00	NS	NS	NS
TG (mg/dL)	67.00 ± 46.00	90.00 ± 84.00	NS	68.00 ± 48.00	97.00 ± 74.00	NS	NS	NS
HDL-C (mg/dL)	63.00 ± 22.00	62.00 ± 17.00	NS	67.00 ± 27.00	57.50 ± 18.00	NS	NS	NS
LDL-C (mg/dL)	94.90 ± 37.40	99.40 ± 52.20	NS	78.30 ± 29.30	101.65 ± 32.20	NS	NS	NS
TSH (μU/mL)	2.10 ± 1.25	1.73 ± 1.37	NS	2.76 ± 1.81	2.30 ± 1.39	NS	NS	NS
FSH (mIU/mL)	5.80 ± 2.40	6.35 ± 2.50	NS	5.60 ± 4.60	5.50 ± 2.00	NS	NS	NS
LH (mIU/mL)	8.40 ± 8.40	9.60 ± 8.70	NS	6.80 ± 6.80	6.85 ± 2.30	NS	NS	NS

E2 (pg/mL)	42.00 ± 43.00	43.00 ± 30.00	NS	67.50 ± 65.00	68.00 ± 56.00	NS	NS	NS
T (nmol/L)	1.60 ± 1.10	1.65 ± 0.90	NS	1.30 ± 0.90	1.05 ± 1.00	NS	***	***
DHEAS (µg/dL)	321.00 ± 167.00	266.00 ± 166.00	NS	263.00 ± 167.00	275.00 ± 141.00	NS	NS	NS
SHBG (nmol/L)	54.30 ± 32.90	55.45 ± 61.30	NS	55.00 ± 45.10	54.90 ± 20.20	NS	NS	NS
FTI (%)	3.21 ± 3.05	2.99 ± 3.91	NS	2.33 ± 2.49	2.53 ± 2.39	NS	NS	NS
AMH (pmol/L)	53.11 ± 28.35	63.10 ± 41.55	NS	27.74 ± 16.50	14.55 ± 16.38	NS	***	***

Data were presented as median ± interquartile range (IQR) or percentage. AMH - Anti-Müllerian hormone; BMI - body mass index; CON - control subjects; DBP - diastolic blood pressure; DHEAS - dehydroepiandrosterone sulfate; E2 - estradiol; FPG - fasting plasma glucose; FSH - follicle-stimulating hormone; FTI - free testosterone index; LH - luteinising hormone; HDL-C - high-density lipoprotein cholesterol; HOMA-IR - homeostasis model assessment for insulin resistance index; LAP - lipid accumulation product; LDL-C - low-density lipoprotein cholesterol; PCOS - polycystic ovary syndrome patients; SBP - systolic blood pressure; SHBG - sex hormone-binding globulin; T - total testosterone; TC - total cholesterol; TG - triglycerides; VAI - visceral adiposity index; WC - waist circumference; WHtR - waist-to-height ratio; *** for $p < 0.001$, ** for $p < 0.01$, * for $p < 0.05$, NS for not statistically significant.

Table S3. Statistical significance of differences between areas under the curves (AUCs) for visceral adiposity indices in PCOS women (*p* value).

variable	BMI	WC	WHR	WHtR	WHT.5R	A/G ratio	TBF	FMI	LAP	VAI
PCOS ¹⁸⁻³⁰										
BMI	-	NS	**	NS	*	**	**	NS	NS	NS
WC	NS	-	***	NS	NS	***	***	**	NS	**
WHR	**	***	-	***	***	NS	NS	NS	***	NS
WHtR	NS	NS	***	-	NS	***	***	**	NS	**
WHT.5R	*	NS	***	NS		***	***	**	NS	**
A/G ratio	**	***	NS	***	***	-	NS	**	***	NS
TBF	**	***	NS	***	***	NS	-	**	***	NS
FMI	NS	**	NS	**	**	**	**	-	*	NS
LAP	NS	NS	***	NS	NS	***	***	*	-	***
VAI	NS	**	NS	**	**	NS	NS	NS	***	-
PCOS ³⁰⁻⁴⁰										
BMI	-	NS	**	NS	NS	NS	NS	NS	NS	NS
WC	NS	-	**	NS	NS	**	*	NS	NS	NS
WHR	**	**	-	**	**	NS	NS	*	**	*
WHtR	NS	NS	**	-	NS	***	*	NS	NS	NS
WHT.5R	NS	NS	**	NS	-	**	*	NS	NS	NS

A/G ratio	NS	**	NS	***	**	-	NS	NS	*	NS
TBF	NS	*	NS	*	*	NS	-	*	NS	NS
FMI	NS	NS	*	NS	NS	NS	*	-	NS	NS
LAP	NS	NS	**	NS	NS	*	NS	NS	-	NS
VAI	NS	NS	*	NS	NS	NS	NS	NS	NS	-

A/G ratio – android-to-gynoid ratio; BMI - body mass index; CON - control subjects; FMI - fat mass index, LAP - lipid accumulation product; PCOS - polycystic ovary syndrome patients; TBF - total body fat percentage, VAI - visceral adiposity index; VAT - visceral adipose tissue mass; WC - waist circumference; WHR - waist-to-hip ratio; WHtR - waist-to-height ratio. *** for $p < 0.001$, ** for $p < 0.01$, * for $p < 0.05$, ns for not statistically significant.

Table S4. Statistical significance of differences between areas under the curves (AUCs) for selected visceral adiposity indices in CON women (p value).

variable	BMI	WC	WHR	WHtR	WHT.5 R	A/G ratio	TBF	FMI	LAP	VAI
CON ¹⁸⁻³⁰										
BMI	-	NS	0.003	NS	0.01	NS	NS	NS	NS	NS
WC	NS	-	0.002	NS	NS	NS	NS	NS	NS	NS
WHR	0.003	0.002	-	0.014	0.004	NS	NS	0.03	0.04	NS
WHtR	NS	NS	0.014	-	NS	NS	NS	NS	NS	NS
WHT.5 R	0.01	NS	0.004	NS	-	NS	NS	NS	NS	NS

A/G ratio	NS	NS	NS	NS	NS	-	NS	NS	NS	NS
TBF	NS	NS	NS	NS	NS	NS	-	NS	NS	NS
FMI	NS	NS	0.03	NS	NS	NS	NS	-	NS	NS
LAP	NS	NS	0.04	NS	NS	NS	NS	NS	-	NS
VAI	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
CON ³⁰⁻⁴⁰										
BMI	-	<0.001	<0.001	0.002	<0.001	<0.001	0.002	NS	<0.001	<0.001
WC	<0.001	-	<0.001	NS	NS	NS	NS	NS	0.013	0.03
WHR	<0.001	<0.001	-	NS	0.001	NS	NS	NS	NS	NS
WHtR	0.002	NS	NS	-	NS	NS	NS	NS	NS	0.002
WHT.5R	<0.001	NS	0.001	NS	-	NS	NS	0.006	0.008	0.03
A/G ratio	<0.001	NS	NS	NS	NS	-	NS	<0.001	NS	NS
TBF	0.002	NS	NS	NS	NS	NS	-	<0.001	NS	NS
FMI	NS	NS	0.008	NS	0.006	<0.001	<0.001	-	0.03	0.02
LAP	<0.001	0.013	NS	NS	0.008	NS	NS	0.03	-	NS
VAI	NS	0.03	NS	0.002	0.03	NS	NS	NS	NS	-

A/G ratio – android-to-gynoid ratio; BMI - body mass index; CON - control subjects; FMI - fat mass index, LAP - lipid accumulation product; PCOS - polycystic ovary syndrome patients; TBF - total body fat percentage, VAI - visceral adiposity index; VAT - visceral adipose tissue mass; WC - waist circumference; WHR - waist-to-hip ratio; WHtR - waist-to-height ratio.