

Supplementary Table 1. Univariate logistic analysis of factors in each group

Variable	I (Ia vs. Ib)		II (IIa vs. IIb)	
	P-value	Odd ratio (95% CI)	P-value	Odd ratio (95% CI)
Personal factors				
Ht z-score	0.146	1.711 (0.830–3.526)	0.052	1.866 (0.994–3.503)
Wt z-score	0.165	0.631 (0.330–1.209)	0.943	1.023 (0.548–1.909)
BMI z-score	0.027*	0.519 (0.291–0.927)	0.284	0.734 (0.418–1.292)
Radiologic findings				
BA (yr)	0.586	0.987 (0.941–1.035)	0.724	1.012 (0.945–1.085)
BA-CA (yr)	0.877	1.071 (0.449–2.554)	0.792	1.122 (0.477–2.639)
Pelvic sonography				
Uterine length (cm)	0.207	0.547 (0.214–1.395)	0.623	1.200 (0.581–2.477)
Right ovary volume (mL)	0.373	1.349 (0.698–2.606)	0.162	1.397 (0.874–2.232)
Left ovary volume (mL)	0.702	0.883 (0.466–1.671)	0.059	2.006 (0.973–4.138)
Larger ovary volume (mL)	0.772	1.088 (0.614–1.929)	0.070	1.684 (0.959–2.957)
Laboratory findings				
E2 (pg/mL)	0.256	1.065 (0.955–1.187)	0.647	1.013 (0.959–1.070)
DHEA-S (µg/dL)	0.151	0.986 (0.968–1.005)	0.032*	0.976 (0.955–0.998)
17-OHP (ng/mL)	0.436	0.685 (0.265–1.775)	0.914	1.043 (0.486–2.238)
IGF1 (ng/mL)	0.423	1.003 (0.995–1.011)	0.541	1.002 (0.996–1.008)
Basal LH (IU/L)	0.019*	15.818 (1.583–158.048)	0.003*	97.360 (4.769–1987.657)
Basal FSH (IU/L)	0.021*	2.555 (1.149–5.680)	0.003*	2.513 (1.367–4.619)
Basal LH/FSH	0.619	0.787 (0.305–2.027)	0.073	6.449 (0.839–49.583)
GnRH stimulation				
Peak LH (IU/L)	-	-	-	-
Peak FSH (IU/L)	0.035*	1.132 (1.009–1.272)	0.027*	1.129 (1.014–1.258)
Peak LH/FSH	0.107	2.803 (0.801–9.817)	0.001*	241.506 (9.861–5914.921)

CI, confidence interval; Ht, height; Wt, weight; BMI, body mass index; BA, bone age; CA, chronological age; DHEA-S, dehydroepiandrosterone sulfate; 17-OHP, oestradiol,17α-hydroxyprogesterone; IGF1, insulin-like growth factor-1; LH, luteinizing hormone; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone.

*P<0.05.

Supplementary Table 2. Characteristics of each group

Group	la+IIa (n=86)	lb+IIb (n=40)	P-value
Personal factors			
CA (yr)	8.23±0.76 (5.39–8.98)	8.07±0.72 (6.21–8.99)	0.153
BMI	18.38±2.72 (14.00–30.00)	19.81±3.28 (13.70–27.60)	0.017*
BMI z-score	0.71±0.92 (-1.30 to 3.22)	1.20±1.11 (-1.63 to 3.10)	0.011*
Radiologic findings			
BA (yr)	10.09±0.94 (6.83–12.00)	9.95±0.90 (7.83–12.50)	0.240
BA-CA (yr)	1.86±0.63 (1.03–3.84)	1.87±0.68 (1.04–3.74)	0.971
Pelvic sonography			
Uterine length (cm)	3.73±0.81 (2.07–7.78)	3.71±0.72 (2.42–5.32)	0.993
Right ovary volume (mL)	2.13±1.41 (0.20–6.30)	1.60±0.78 (0.50–3.45)	0.113
Left ovary volume (mL)	1.84±1.07 (0.46–4.99)	1.50±0.94 (0.35–5.17)	0.060
Larger ovary volume (mL)	2.29±1.33 (0.53–6.30)	1.77±0.92 (0.60–5.17)	0.057
Laboratory findings			
DHEA-S (µg/dL)	7.90±10.56 (0.20–57.60)	5.48±7.84 (0.20–47.80)	0.263
17-OHP (ng/mL)	51.54±30.29 (7.00–169.00)	65.75±24.52 (18.00–123.00)	0.003*
IGF1 (ng/mL)	0.98±0.66 (0.22–3.23)	1.05±0.75 (0.34–3.35)	0.796
Basal LH (IU/L)	301.81±86.39 (157.50–548.03)	282.63±73.76 (139.76–471.01)	0.201
Basal FSH (IU/L)	0.99±1.18 (0.06–8.16)	0.31±0.18 (0.08–0.95)	0.000*
DHEA-S (µg/dL)	2.51±1.33 (0.50–8.17)	1.51±0.92 (0.17–3.96)	0.000*
GnRH stimulation test			
LH peak (IU/L)	16.96±12.69 (5.05–71.00)	3.25±1.02 (0.81–4.99)	0.000*
FSH peak (IU/L)	16.58±6.10 (5.39–35.46)	13.48±5.57 (1.10–26.21)	0.024*

Values are presented as mean±standard deviation (range).

CA, chronological age; BMI, body mass index; BA, bone age; DHEA-S, dehydroepiandrosterone sulfate; 17-OHP, oestradiol, 17α-hydroxyprogesterone; IGF1, insulin-like growth factor-1; LH, luteinizing hormone; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone.

*P<0.05.

Supplementary Table 3. Univariate logistic analysis of peak LH associated with various parameters

Variable	Ia+IIa vs. Ib+IIb	
	P-value	Odds ratio (95% CI)
Personal factors		
Ht z-score	0.028*	1.682 (1.059–2.671)
Wt z-score	0.261	0.776 (0.499–1.207)
BMI z-score	0.014*	0.606 (0.407–0.903)
Radiologic findings		
BA (yr)	0.421	1.014 (0.980–1.048)
BA-CA (yr)	0.879	0.956 (0.534–1.710)
Pelvic sonography		
Uterine length (cm)	0.892	1.036 (0.621–1.728)
Right ovary volume (mL)	0.044*	1.468 (1.010–2.134)
Left ovary volume (mL)	0.101	1.450 (0.931–2.258)
Larger ovary volume (mL)	0.042*	1.492 (1.015–2.193)
Laboratory findings		
E2 (pg/mL)	0.218	1.033 (0.981–1.088)
DHEA-S (µg/dL)	0.019*	0.984 (0.970–0.997)
17-OHP (ng/mL)	0.644	0.878 (0.504–1.527)
IGF1 (ng/mL)	0.232	1.003 (0.998–1.008)
LH Basal (IU/L)	0.000*	35.067 (6.042–203.517)
FSH Basal (IU/L)	0.000*	2.533 (1.579–4.061)
GnRH stimulation		
LH peak (IU/L)	-	-
FSH peak (IU/L)	0.010	1.098 (1.022–1.179)

CI, confidence interval; Ht, height; Wt, weight; BMI, body mass index; BA, bone age; CA, chronological age; DHEA-S, dehydroepiandrosterone sulfate; 17-OHP, oestradiol, 17 α -hydroxyprogesterone; IGF1, insulin-like growth factor-1; LH, luteinizing hormone; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone.

* $P < 0.05$.

Supplementary Table 4. Characteristics of each subgroup

Variable	Subgroup I (n=22)	Subgroup II (n=22)	Subgroup III (n=21)	Subgroup IV (n=21)	P-value
Personal factors					
CA (yr)	7.95±1.10 (5.39–8.96)	8.03±0.61 (6.93–8.96)	8.61±0.39 (7.86–8.98)	8.37±0.58 (6.45–8.90)	0.013*
BMI (kg/m ²)	19.10±3.38 (15.10–30.00)	17.85±2.58 (14.00–22.90)	17.30±1.87 (15.50–22.70)	19.24±2.46 (15.60–26.90)	0.048*
BMI z-score	0.98±0.91 (-0.64 to 3.22)	0.52±1.05 (-1.30 to 2.11)	0.25±0.73 (-0.63 to 1.94)	1.09±0.76 (-0.57 to 2.73)	0.007*
Radiologic findings					
BA (yr)	9.72±1.20 (6.83–11.00)	9.88±0.76 (8.33–11.00)	10.30±0.61 (9.42–12.00)	10.49±0.93 (7.83–12.00)	0.024*
BA-CA (yr)	1.77±0.57 (1.03–2.89)	1.85±0.57 (1.04–3.43)	1.69±0.52 (1.04–3.02)	2.11±0.80 (1.10–3.84)	0.154
Pelvic sonography					
Uterine length (cm)	3.40±0.44 (2.55–4.20)	3.48±0.64 (2.07–4.30)	3.96±0.78 (2.90–5.60)	4.10±1.06 (2.90–7.78)	0.010*
Right ovary volume (mL)	1.87±1.07 (0.25–4.10)	1.52±1.00 (0.50–4.02)	2.37±1.59 (0.20–5.20)	2.72±1.62 (0.40–6.30)	0.033*
Left ovary volume (mL)	1.59±0.89 (0.50–4.00)	1.33±0.72 (0.46–2.90)	2.03±1.28 (0.67–4.99)	2.39±1.03 (1.10–4.79)	0.007*
Larger ovary volume (mL)	1.97±1.01 (0.53–4.10)	1.70±1.00 (0.54–4.02)	2.51±1.49 (0.74–5.20)	2.94±1.44 (1.40–6.30)	0.011*
Laboratory findings					
E2 (pg/mL)	3.89±2.54 (0.30–9.30)	7.11±9.60 (0.60–41.20)	10.95±15.98 (0.20–57.60)	9.84±9.11 (0.80–31.80)	0.123
DHEA-S (µg/dL)	50.28±28.82 (7.00–109.00)	46.40±23.30 (13.00–93.00)	47.42±29.66 (16.00–113.00)	61.43±37.22 (16.00–169.00)	0.367
17-OHP (ng/mL)	1.07±0.61 (0.22–2.37)	0.74±0.62 (0.28–3.23)	0.96±0.46 (0.26–2.10)	1.19±0.84 (0.23–3.14)	0.145
IGF1 (ng/mL)	260.43±72.04 (168.78–434.72)	297.55±75.11 (171.81–435.93)	296.02±94.68 (157.50–547.93)	355.11±80.85 (234.74–548.03)	0.003*
Basal LH (IU/L)	0.74±0.89 (0.13–4.09)	0.69±0.48 (0.16–1.91)	0.78±0.55 (0.06–1.89)	1.78±1.90 (0.21–8.16)	0.004*
Basal FSH (IU/L)	2.21±0.84 (1.09–4.14)	2.06±0.96 (0.65–3.80)	2.78±1.89 (0.50–8.17)	3.03±1.27 (0.79–6.24)	0.051
GnRH stimulation					
LH peak (IU/L)	6.43±0.99 (5.05–8.01)	9.82±1.59 (8.06–13.12)	17.03±3.34 (13.14–23.65)	35.39±11.61 (23.71–71.00)	0.000*
FSH peak (IU/L)	18.02±6.19 (10.08–33.11)	17.76±7.32 (5.67–35.46)	14.36 (12.09–16.63)	15.95±5.23 (8.22–28.36)	0.168

Values are presented as mean±standard deviation (range).

CA, chronological age; BMI, body mass index; BA, bone age; DHEA-S, dehydroepiandrosterone sulfate; 17-OHP, oestradiol, 17α-hydroxyprogesterone; IGF1, insulin-like growth factor-1; LH, luteinizing hormone; FSH, follicle-stimulating hormone; GnRH, gonadotropin-releasing hormone.

One-way analysis of variance test was used for the mean comparison between the 4 subgroups, and Tukey HSD was used for post hoc analysis.

Subgroup I=1 quartile (LH peak, 5.05–8.01), subgroup II=2 quartile (LH peak, 8.06–13.12), subgroup III=3 quartile (LH peak, 13.14–23.65), subgroup IV=4 quartile (LH peak, 23.71–71.00).

*P<0.05.