Table S1. Correlation between Mg, Cp and clinical related variables for all the study PCOS participants

Characteristic	Mg/Serum(mg/dL)		Ceruloplasmin/Serum (IU/L)	
	r	*P*	r	*P*
Menarche	-0.1213	0.2342	0.01742	0.8648
Age	-0.1112	0.2756	0.1332	0.1910
BMI	0.02275	0.8241	0.1217	0.2324
Prolactin	0.002097	0.0762	-0.2539	0.0116
AMH	-0.2250	0.9836	-0.1035	0.3105
FBS	-0.2250	0.0259	-0.08171	0.4238
PP2	-0.2693	0.0073	-0.1813	0.0740
HB	0.1460	0.1516	-0.08714	0.3936
ESR	0.1037	0.3097	0.002097	0.9837
FSH	0.1992	0.0493	-0.02076	0.8393
LH	-0.007778	0.9394	0.07788	0.4459
LH/FSH	-0.1355	0.1834	0.06998	0.4935
TSH	-0.09606	0.3467	-0.2341	0.0204
Progesterone	0.1112	0.2755	-0.1295	0.2037
Menses per year	-0.1851	0.0681	0.05417	0.5963
AFC	-0.06020	0.5560	-0.05866	0.5661

Correlation analysis was carried out using Spearman correlation coefficient test. R= -1 to +1;

P-value <0.05 was considered to be statistically significant

Table S2. Multiple linear regression analysis of serum Mg level with reproductive and biochemical variables in the PCOS subjects

Variables	B	SE	t Stat	*P*-value	Lower 95%	Upper 95%
Menarche	0.0	1.1	0.0	1.0	-2.3	2.3
Age	0.3	1.0	0.3	0.8	-1.7	2.3
BMI	1.0	1.0	1.0	0.3	-1.1	3.1
Prolactin	0.4	0.4	0.9	0.4	-0.4	1.1
AMH	-0.2	0.2	-1.3	0.2	-0.6	0.1
FBS	-1.8	3.1	-0.6	0.6	-8.1	4.5
PP2	1.1	1.0	1.1	0.3	-1.0	3.2
HB	-1.0	1.3	-0.8	0.5	-3.6	1.6
ESR	0.2	1.0	0.2	0.9	-1.9	2.3
FSH	-8.3	11.0	-0.8	0.5	-30.8	14.2
LH	-0.3	0.4	-0.7	0.5	-1.1	0.5
LH/FSH	-0.1	0.7	-0.1	0.9	-1.5	1.3
TSH	0.3	1.4	0.2	0.8	-2.5	3.2
Progesterone	2.0	3.3	0.6	0.6	-4.8	8.7
Menses per year	-2.3	1.4	-1.6	0.1	-5.2	0.7
AFC	-0.5	0.7	-0.7	0.5	-1.9	1.0

BMI, body mass index; AMH, Anti-Müllerian Hormone, FBS, fasting plasma glucose; PP2, postload 2-hour glucose, HB, Hemoglobin, ESR, erythrocyte sedimentation rate, FSH, follicle-stimulating hormone, LH, luteinizing hormone, TSH, thyroid stimulating hormones,

Cp, Ceruloplasmin (IU/L), AFC, Maximum antral follicle count. B = Regression coefficient; SE = standard error of regression coefficient

Table S3. Multivariate logistic regression analysis on association between Hypomagnesemia and other variables in PCOS subjects

Variable	OR	Lower 95% CI for OR	Upper 95% CI for OR	*P*-value
Age	1.354	0.159	0.447	0.011
AMH	0.940	-0.174	0.050	0.505
Menses	1.093	0.089	0.089	0.453
FF	1.022	-0.008	0.052	0.373
FSH	0.346	-1.775	-0.345	0.05
AFC	1.005	0.005	0.005	0.944
LH	1.589	0.061	0.865	0.163
LH/FSH	0.196	-3.412	0.155	0.268
Menarche	0.949	-0.243	0.138	0.739
PP	1.018	-0.002	0.038	0.285
PRL	1.002	-0.045	0.049	0.961
Prog	1.178	-0.379	0.707	0.715
TSH	1.607	0.195	0.754	0.039

The variables were analysed using multivariate logistic regression with adjusted odds ratio (OR) also with a 95% confidence interval (CI) and a *P-value <0.05 was considered to be statistically significant. Values are presented as OR = Odds ratio, Coding of categorical variables- Normal Mg level= 0, Hypomagnesaemia =1

Table S4. Multivariate logistic regression analysis on association between high Cp level and other variables in PCOS subjects

Variable	OR	Std.Err.	P-value	Lower 95% CI for OR	Lower 95% CI for OR
Age	1.234	0.066	0.345	-0.419	0.543
AMH	0.978	0.076	0.407	-0.617	0.492
BMI	1.000	0.141	0.499	-1.127	0.936
ESR	1.308	0.036	0.600	-0.244	0.282
FBS	1.038	0.016	0.310	-0.135	0.102
FSH	0.907	0.548	0.011	-2.615	5.418
HB	0.926	0.126	0.722	-0.971	0.881
LH	0.992	0.328	0.015	-3.208	1.604
LH/FSH	0.911	1.622	0.014	-7.919	15.852
Menarche	1.071	0.137	0.469	-0.907	1.106
Menses	1.119	0.143	0.778	-1.091	1.010
Mg	1.787	0.864	0.407	-7.045	5.614
AFC	1.234	0.078	0.857	-0.585	0.557
PRL	0.978	0.036	0.275	-0.303	0.224
PROG	1.000	0.439	0.039	-4.121	2.313
TSH	1.308	0.195	0.088	-1.763	1.097

The variables were analysed using multivariate logistic regression with adjusted odds ratio (OR) also with a 95% confidence interval (CI) and a *P-value <0.05 was considered to be statistically significant. Values are presented as OR = Odds ratio, Coding of categorical variables- Non PCOS = 0, PCOS, Normal Cp level= 0, high Cp level present =1