THE PREVALENCE OF METABOLIC SYNDROME IN PATIENTS WITH POLYCYSTIC OVARY SYNDROME

Dr.Faiz A. Alwaeely , FICMS. CABOG. Assist. Professor.*
Dr. Salman K. Ajlaan , MBChB., MSc. Assist. Professor.**
Dr. Ali Falih Al-assadi ,FICMS. CABOG. Assist. Professor.*
Dr. Eman Mahdi Nsaif ,M.B,Ch.B.*

ABSTRACT

Background:The metabolic syndrome (syndrome X) , also called "insulin resistance syndrome" is a cluster of cardiovascular risk factors associated with excess fat. the metabolic syndrome is more common among women with PCOS than in normal women), particularly in those with hyperinsulinaemia and obesity

Objective: The Aim of the study was to determine the prevalence of metabolic syndrome, and it's main determinants in women with PCOS.

Methods: Two –hundred twenty women , 105 patients with polycystic ovary syndrome (PCOS) and 115 control , were included in this study to determine the prevalence of the metabolic syndrome & its main determinants among women with PCOS .

Results: The study revealed that 82.1% of women with PCOS were nulliparae compared to 8.91% of controls (P < 0.001) . Blood pressure > 130/ 85 mm.Hg and waist circumference > 88 cm were found among 37.14% and 60% of patients with PCOS respectively in comparison to 12.17% and 25.2% of control women respectively (P <0.001). Over weight and obesity were observed among 48.6% and 40% of PCOS women respectively compared to 25.2% and 12.2% of controls respectively (P < 0.001) . Only 3.3% of patients with PCOS were fertile , 73.9% with primary infertility and 22.8% with secondary infertility . The comparative figures among controls were 82.3% , 4.2% and 13.5% (P < 0.001) . The main menstrual disorder associated with PCOS was oligomenorrhoea , observed in 72.4 of patients , compared to 3.5% in control women (P < 0.001) . Hirsutism was found among 62.9% of PCOS patients in comparison to 5.2% of controls (P < 0.001) . Women with PCOS showed significantly higher FBG , TC, TG and LDL-C levels (P < 0.001) and significantly lower HDL-C levels (P < 0.01) compared to control women .

The frequency of metabolic syndrome in PCOS was 34.3% compared to 6.1% in conrol women (P < 0.001) .

Conclusion : the prevalence of metabolic syndrome in PCOS is nearly 6 times higher than in controls . Women with PCOS share multiple cardiovascular risk factors , and thereby , more prone to cardiovascular events .

*** Department of Obstetrics & Gynecology Basra Medical College, Basra, Iraq.**
**** Department of Biochemistry Basra Medical College, Basra, Iraq.**

INTRODUCTION

Polycystic ovary syndrome (PCOS) is one of the most common endocrinopathies, affecting approximately 4% to 7% of women of reproductive age [(1)]. PCOS is associated with a broad range of clinical presentations including hirsutism , menstrual irregularities , and infertility . Most women with PCOS have hyperandrogenemia , elevated luteinizing hormone (LH) , and normal or decreased follicle – stimulating hormone (FSH) . Metabolic abnormalities and sequelae of PCOS resemble those of syndrome X . PCOS is characterized by insulin resistance and compensatory hyperinsulinemia [(2)] . Women with PCOS are often obese, usually because of excessive central fat accumulation. PCOS is associated with Dyslipidemia, systolic hypertension and hyperfibrinogenaemia [(3-5)]. Such wonen are at an increased risk of of type 2 diabetes mellitus , atherosclerosis and coronary artery disease including myocardial infarction [(6)] . The metabolic syndrome (syndrome X) , also called "insulin resistance syndrome" is a cluster of cardiovascular risk factors associated with excess fat . A commonly used definition defines the syndrome as the coexistence of three or more of the following five abnormalities**:** high blood pressure , impaired glucose tolerance , dyslipidaemia (high levels of TC, TG, LDL) or (low level of HDL) and abdominal obesity . The metabolic syndrome is associated with a high risk for atherosclerosis , cardiovascular disease , thrombotic events , and mortality [(1,2)] . Several investigators studied the relationship between PCOS and the metabolic syndrome , they found that the metabolic syndrome is more common among women with PCOS than in normal women [(7-9)], particularly in those with hyperinsulinaemia and obesity [(10)]. The Aim of the study was to determine the prevalence of metabolic syndrome, and it's main determinants in women with PCOS.

Subjects & Methods :

In this study , conducted at Basrah Maternity and Child Hospital, from January, 2005 throughout June,2006 A total of 220 women, 17-40 years of age were included . They were out patients attendant at the infertility centre and the gynaecological out patient clinic in the hospital. Among these women , 105 were diagnosed as polycystic ovary syndrome (PCOS) by clinical, and ultrasongrphic medhods, while the remaining 115 (in whom PCOS was excluded) were considered as a control group . Detailed history was taken from every participant including , menstrual history , history of infertility and obstetric history . In addition thorough physical examination was carried out beside measuring blood pressure , waist circumference and body mass index (BMI) . All the studied women were subjected to pelvic ultrasonography as well as measurement of , lipid profile : TC , TG, HDL-C, and LDL-C, and, fasting blood glucose (FBG) level . Statistical analysis was carried out using Chi-square (X^2) test . $P < 0.05$ was considered to be statistically significant .

RESULTS

Table 1 presents the age distribution, marriage and parity among patients and controls , where age distribution was comparable in the two groups and the vast majority of women in the age range of 20-40 years (88.6% in patients with PCOS compared to 88% in controls). In addition, 90.5% of patient were married compared to

87.8% of the control group . On the other hand , the vast majority of women with PCOS (82.1%) were nulliparae compared to 8.91% only among controls , where as 17.9% of PCOS women were with parity of 1-5 compared to 86.14% in the control group (P < 0.001) no grandmultiparae found among patients (0%) with PCOS compared to 4.95% among control women . As shown in Table 2, (37.14%) of PCOS women have blood pressure of > 130/85 mm. Hg compared to only 12.17% of control women P < 0.001 . Concerning waist circumference, (60%) of women with PCOS were with a circumference of > 88 cm compared to (25.2%) of controls P < 0.001. On the otherhand overweight and obesity were found among 48.6% and 40% respectively of PCOS women, P<0.001 compared to (25.2%) and (12.2%) respectively of control women . Normal BMI was observed among 8.6% only of patients compared to 58.3% of control group , P < 0.001 . Table 3 presents the clinical presentation among the study groups . Only (3.3%) of patients with PCOS were fertile , (73.9%) with primary infertility and (22.8%) with secondary infertility , unlike the control group , where the majority of women were fertile (82.3%) , (13.5%) with secondary infertility and (4.2%) with primary infertility ,P < 0.001. Concerning menstrual disorders, (72.4%) of PCOS women have oligomonerrhoea, (5.7%) with menorrhagia, (7.6%) with secondary amenorrhoea and only (14.3%) of normal menstrnal cycle , unlike control women, were only (3.5%) with oligomenorrhoea, (10.4%) with menorrhagia , (3.5%) with secondary amenorrhoea and the majority (82.6%) with normal cycles , P < 0.001) . In addition , about two-third of women with PCOS (62.9%) have hirsuitism compared to only (5.2%) of control women (P < 0.001) . As shown in Table 4 , serum levels of TC, TG , LDL-C and FBG (P<0.001) were significantly higher, and serum HDL-C level (P<0.01) was significantly lower among women with PCOS compared with controls . Table 5 present the frequency of metabolic syndrome among the studied women . Metabolic syndrome was found among 34.3% of patients compared to 6.1% of controls (P < 0.01) .

DISCUSSION

The clinical features of patients with PCOS overlap some of the chief complaints already discussed– amenorrhoea and abnormal bleeding . However , additional problems of infertility, hirsutism , and insulin resistance implicate pathogenetic factors different from those so far emphasized [(11)]. The pathophysiology of PCOS includes anovulation , elevated but not surging LH, elevated androgen production in addition to follicular atresia without maturation. In PCOS, the following pathophysiological abnormalities have been described: an increased pulsitile GnRH secretion[(18,19)], disordered ovarian , and sometimes, adrenal androgen secretion[(14,15)], ovarian cystic changes and hyperinsulinaemia[(16)] . It was suggested that excess insulin levels can cause or aggravate ovarian androgen production[(16-18)]. Hyperinsulinaemia and insulin resistance are essential components of PCOS, and may also be associated with hypertension , dyslipidaemia and an increased risk of cardiovascular disease, and hence , the name " metabolic syndrome " [(11,19)]. PCOS has a huge burden on fertility, with the vast majority of married women with PCOS (82.1%) were nulliparae (Table 1) .This finding supported by the observation that 96.7% of the studied PCOS women were infertile (

Table 4) . Infertility or reduced fertility is an important intrinsic feature of PCOS . We found that 37.1% of PCOS women had a blood pressure more than 130/ 85 mm. Hg. This figure is different from that of others [20] , whereas higher than a figure of 21% observed by Ehrmann et al[27]. As an elevated blood pressure is an essential component of the metabolic Syndrome[1,2]. The present study revealed that 60% of women with PCOS were with a waist circumference of more than 88 cm, 48.6% were over weight and 40% were obese (Table 2) . Several studies reported higher waist circumference in association with PCOS [6,21] . Folia et al [22], observed that 50% of patient with PCOS were obese , while Azziz[23] reported a figure of an increased BMI in 72.3% of PCOS patients. Obesity is an important pathophysiological factor in PCOS affecting other disordered clinical and biochemical parameters . It has been suggested that hyperinsulinaemia , dyslipidaemia and hypertension in PCOS is related to obesity[3]. Menstnal abnormalities (particularly oligomenorrhoea) , and hirsutism are consistent finding in association with PCOS. We found oligomenornhea in 72.4% , and hirsutism in 62.9% of women with PCOS, Table3. These findings are due to hyperandrogenism present in PCOS patients. Elevated ovarian androgen secretion tends to block the growth of a dominant ovarian follicle . Excessive androgens stimulate the growth of terminal hair in a male- pattern distribution[24] . PCOS is associated with significant adverse changes in FBG and lipid parameters , as presented in Table 4 . These significant alterations in lipid profile and blood sugar , though still within the normal limits yet , however , having substantial adverse influences on the cardiovascular risk particularly when associated with other cardiovascular risk factors already existing among patients with PCOS, notably, obesity, hypertension, hyperinsulinaemia and insulin resistance . Dyslipidaemia in association with PCOS is a consistent observation in several studies[6,20,21,23,25,26]. PCOS patients exihibit an abnormal lipid profile with reduced HDL-C levels , an increased TG levels and slightly elevated LDL-C concentrations . However , normal LDL-C level may be misleading as LDL particles shows variations in size and atherogenicity , with smaller dense LDL particles are harmful and more atherogenic , and high concentrations often occurs in association with hypertriglyceridaemia , with frequently normal LDL-C , increased hepatic lipase activity and insulin resistance [27] . We found that 34.3% of women with filfull the criteria of metabolic syndrome, Table 6. Such figure indicates that the risk of metabolic syndrome is increased nearly 6-fold in women with PCOS than in control women . Most of published studies reported an increased risk of metabolic syndrome in PCOS[20,21,25,28], reaching up to 11-fold increased risk of metabolic syndrome compared to control women [9,23]. PCOS is the most common cause of increased cardiovascular risk in young adult women [29] . In conclusion, women with PCOS are , undoubtfully, at greater risk of metabolic syndrome than normal women , and thus , at more risk of cardiovascular disease & would be more prone to cardiovascular events. We recommend that all obese and overweight women with PCOS should be screened for metabolic syndrome and, when the syndrome is not found, the screening should be repeated every 2 or 3 years. Treatment consists in lifestyle intervention. Pharmacological therapies

should be used only when lifestyle fails to normalize cardiovascular risk factors .

Table 1 : Age distribution, marriage and parity

Age (year)		PCOs		Controls	
		No.	%	No.	%
< 20		12	11.4	14	12.2
20-40		93	88.6	101	87.8
> 40		0	0	0	0
Total		105	100.0	115	100.0
Marriage	Yes	95	90.5	101	87.8
	No	10	9.5	14	12.2
	Total	105	100.0	115	100.0
Parity ***	0	78	82.1	9	8.91
	<5	17	17.9	87	86.14
	≥5	0	0	5	4.95
	Total	95*	100.0	101**	100.0

* unmarried among PCOs women = 10

** unmarried among controls = 14

*** parity : $X^2 = 101.7$

$P < 0.001$

Table 2 : Clinical characteristics

Parameter		PCOs		Control	
		No.	%	No.	%
Blood pressure (mmHg)*	≤ 130/85	66	62.86	101	87.83
	> 130/85	39	37.14	14	12.17
	Total	105	100.0	115	100.0
Waist circumference (cm)**	≤ 88	42	40	86	74.8
	> 88	63	60	29	25.2
	Total	105	100.0	115	100.0
BMI (kg/m^2) ***	< 19	3	2.8	5	4.3
	19-25	9	8.6	67	58.3
	> 25-30	51	48.6	29	25.2
	> 30	42	40	14	12.2
	Total	105	100.0	115	100.0

* Blood pressure : $X^2 = 18.7$, $P < 0.001$

** Waist circumference : $X^2 = 27.31$, $P < 0.001$

*** BMI : $X^2 = 64.48$, $P < 0.001$

Table 3 : Clinical presentation

Clinical parameter		PCOs		Control	
		No.	%	No.	%
Fertility *	Fertile	3	3.3	79	82.3
	Primary infertility	68	73.9	4	4.2
	Secondary infertility	21	22.8	13	13.5
	Total	92(1)	100.0	96(2)	100.0
Menstrual disorder **	Menorrhagia	6	5.7	12	10.4
	Secondary amenorrhoea	8	7.6	4	3.5
	Oligomenorrhoea	76	72.4	4	3.5
	No abnormality	15	14.3	95	82.6
	Total	105	100.0	115	100.0
Hirsutism ***	Present	66	62.9	6	5.2
	Absent	39	37.1	109	94.8
	Total	105	100.0	115	100.0

* Among married women

(1) : Among PCOs = unmarried = 10 married since < 1 year = 3 i.e. total = 105-13=92

(2) : Among control = unmarried = 14 married since < 1 year = 5 total = 115-19 = 96

* : Fertility : $X^2 = 129.21$, $P < 0.001$

** : Menstrual disorders $X^2 = 126.11$, $P < 0.001$

*** Hirsuitism : $X^2 = 82.84$, $P < 0.001$

Table 4 : Biochemical Parameters

Parameter (mg/dl)	PCOS (n=105)	Controls (n=115)	t-value	P- value
TC	202.6(35.8)	187.5 (30.2)	3.38	P < 0.001
TG	153.1 (45.4)	134.9 (30.2)	3.53	P < 0.001
LDL-C	115.3 (36.4)	97.2 (30.7)	3.99	P < 0.001
HDL-C	52.3 (14.8)	57.6 (14.9)	2.64	P < 0. 01
FBG	108.1 (21.8)	98.6 (15.5)	3.75	P < 0.001

Values are given in ∓ (SD) .

Table 5 : The metabolic syndrome

The metabolic syndrome	PCOs		Controls	
	No.	%	No.	%
Present	36	34.3	7	6.1
Absent	69	65.7	108	93.9
Total	105	100.0	115	100.0

$X^2 = 27.83$, $P < 0.001$

REFERENCES

1) Beata Banszewska , Antoni J, Robert Z, Leszek P : Lipids in polycystic ovary syndrome ; Role of hyperinsulinemia and effects of metformin ; American Journal of obstetric and Gynaecology. (2006); 194: PP 1266-72 .

2) Diamanti-Kandarakis E , Kouli CR, Filandraf A et al : A survey of the polycystic ovary syndrome in the Greek island of Lesbos ; hormonal and metabolic profile – J clin Endocrino Metab . 1999 ; 84(11) : PP 4006-11 .

3) Elting MW, Korsen TJ, Schoemaker J : Obesity , rather than menstrual cycle pattern or follicle cohort size , determines hyperinsulinaemia, dyslipidaemia and hypertension in ageing women with polycystic ovary syndrome . Clinical Endocrinology 2001;55(6): PP 767-76 .

4) Atiomo WV, Bates SA , condon JE. et al . The plasminogen activator system in women with polycystic ovary syndrome . Fertility sterility 1998; 69: PP 236-41 .

5) Conway GS, Agrawal R, Betteridge DJ, Jacobs HS . Risk factors for coronary artery disease in lean and obese women with the polycystic ovary syndrome . Clinical Endocrinology 1992; 37: PP 119-25.

6) Glueck CJ , Morrison JA, Friedman LA. et al. Obesity , free testosterone , and cardiovascular risk factors in adolescents with polycystic ovary syndrome and regularly cycling adolescents . Metabolism . 2006; 55: PP 508-14 .

7) Silva Rdo C, Pardini DP, Kater CE. Polycystic ovary syndrome, metabolic syndrome, cardiovascular risk and the role of insulin sensitizing agents . Arq Bras Endocrinol Metabol . 2006; 50(2) : PP 281-90 .

8) Sharma ST, Nestler JE. Prevention of diabetes and cardiovascular disease in women with PCOS : Treatment with insulin sensitizers. Endocrinology and Metablism . 2006; 20: PP 245-60 .

9) Dokras A, Bochner M , Hollinrake E, Markham S, et al . Screening women with polycystic ovary syndrome for metabolic syndrome . 2005; 106(1) : PP 131-7 .

10) Korhonen S, Hippelainen M, Niskanen L ; et al . Relationship of the metabolic syndrome and obesity to polycystic ovary syndrome : - a controlled , population – based study . Am . J Obstet Gynecol . 2001: 184(3) : PP 289-96 .

11) Federman DD. Ovary. In : Dale DC, Federman DD, Web MD Sciemtific American Medicine, 2003 edn. New York , Web MD Inc : 2003: 641-654 .

12) Crowley WFJr, Hall JE, Martin KA, et al. An overview of the diagnostic consideration in polycystic ovary syndrome . Ann NY Acad Sci 1993; 687: 235 .

13) Hayes FJ , Taylor AE, Martin KA, et al. Use of a gonadotropin – releasing hormone antagonist as a physiologic probe in polycystic ovary syndrome : assessment of neuroendocrine and androgen dynamics . J Clin Endocrinol Metab 1998; 83: 2343 .

14) Ehrmann DA, Barnes RB, Rosenfield RL. Polycystic ovary syndrome as a form of functional ovarian hyperandrogenism due to dysregulation of androgen secretion . Endocr Rev 1995; 16: 322 .

15) Azziz R, Black V, Hines GA, et al. Adrenal androgen excess in the poly cystic ovary syndrome: sensitivity and responsivity of the hypothalamic– pituitary – adrenal axis . J Clin Endocrinol Metab 1998; 83: 2317 .

16) Barbieri RL. Hyperandrogenism , insulin resistance and a canthosis nigricans : 10 years of progress . J Reprod Med 1994; 93: 327 .

17) Dunaif A. Insulin resistance and the polycystic ovary syndrome : mechanism and implications for pathogenesis . Endocr Rev 1997; 18: 774.
18) Kazer RR. The polycystic ovary. Semin Reprod Endocrinol 1997; 15 (3).
19) How lett TA. Endocrine disease . In : Kumar P, Clark M. Clinical Medicine , 6th edn. Edinburgh , Elsevier Saunders , 2005: 1035-1100 .
20) Glueck CJ, Papanna R, Wang P et al . Incidence and treatment of metabolic syndrome in newly referred women with confirmed polycystic ovarian syndrome . Metabolism . 2003; 52: PP 908-15 .
21) Ehrmann DA, Liljenquist DR, Kaszak et al . Prevalence and predictors of metabolic syndrome in women with polycystic ovary syndrome. J Clin. Endocrinology and Metabolism . 2006; 91: PP 48-53 .

22) Faloia E, Canibus P, Gattic , et al. Body composition , fat distribution and metabolic characteristics in lean and obese women with polycystic ovary syndrome . J Endocrinol Invest . 2004; 27(5): PP 424-9.
23) Ricardo Azziz . How Prevalent is Metabolic Syndrome in Women With Polycystic Ovary Syndrome ? Nature clinical Practice Endocrinology and Metabolism. 2006; 2: PP 260-264 .
24) Barbieri RL. Polycystic ovary syndrome. In : Dale DC, Federman DD. Web MD Scientific American Medicine , 2003 edn, New York ; web MD Inc: 2003: 962-972 .
25) Sam S, Legro RS, Bentley-Lewis R, Dunsif A. Dyslipidemia and metabolic syndrome in the sisters of women with polycystic ovary syndrome . J Clin . Endocrinology and Metabolism .
26) Rajkhowa M, Neary RH, Kumpatla P, et al. Altered composition of high density lipoproteins in women with the polycystic ovary syndrome. J clin . Endocrinology and Metabolism . 1997; 82(10): PP 3389-94 .
27) Pirwany IR, Fleming R, Greer IA, et al . Lipids and lipoprotein subfractions in women with PCOS : relationship to metabolic and endocrine parameters . Clin . Endocrinol . 2001; 54(4): PP 447-53 .
28) Carmina E, Napoli N, Longo RA, et al . Metabolic syndrome in polycystic ovary syndrome . (PCOS) : lower prevalence in southern Italy than in the USA and the influence of criteria for the diagnosis of PCOS . Eur J Endocrinol . 2006; 154(1): 141-5 .
29) Carmina E. Metabolic syndrome in polycystic ovary syndrome . Minerva Ginecol. 2006; 58(2): PP 109-14 .

تحديد إنتشار حدوث متلازمة الأيض (X) بين النساء اللواتي لديهن متلازمة التكيس المبيضي المتعدد

أ.م.د. فائز عبد الواحد الوائلي، أ.م.د. سلمان كاظم عجلان، أ.م.د. علي فالح الأسدي، د. إيمان مهدي

الخلاصة:

المقدمة:

تضمنت هذه الدراسة المستقبلية التي أجريت في مستشفى البصرة للولادة والأطفال ٢٢٠ إمرأة منهم ١٠٥ إمرأة لديهن متلازمة التكيس المبيضي المتعدد (الحالات) و١١٥ إمرأة لاتوجد لديهن أي علامات متلازمة التكيس المبيضي المتعدد (الحالات الضابطة).

هدف الدراسة:

كان هدف الدراسة هو لتحديد إنتشار حدوث متلازمة الأيض (X) بين النساء اللواتي لديهن متلازمة التكيس المبيضي المتعدد وأيضاً لتحديد العوامل الرئيسية المؤثرة على حدوثه مع دراسة بعض المتغيرات السريرية والخصائص الكيميائية للنساء المصابات بهذه المتلازمة ومتلازمة التكيس المبيضي المتعدد.

النتائج:

أظهرت الدراسة بأن ٨٢,١% من النساء المصابات بمتلازمة التكيس المبيضي المتعدد كن ممن ليس لديهن أطفال بالمقارنة مع٨,٩١% من الحالات الضابطة مع وجود فرق معنوي (P<0.001) إرتفاع ضغط الدم أكثر من ٨٥/١٣٠ ملم زئبق ومحيط الخصر أكثر من ٨٨ سم كان موجوداً في ٣٤,١٤% و ٦٠% من الحالات بالتتابع بالمقارنة مع ١٢,١٧% و ٢٥,٢% في الحالات الضابطة بالتتابع.

لوحظ زيادة الوزن والسمنة بين ٤٨,٦% و ٤٠% من الحالات بالتتابع بالمقارنة مع ٢٥,٢% و ١٢,٢% من الحالات الضابطة بالتتابع.

كان هناك ٣,٣% من الحالات لديهن خصوبة طبيعية، ٧٣,٩% لديهن عقم أولي و ٢٢,٨% لديهن عقم ثانوي مقارنة مقارنة بالحالات الضابطة، حيث كانت الأرقام ٨٢,٣%، ٤,٢% و ١٣,٥% مع وجود فرق معنوي واضح (P<0.001).

إضطراب الدورة في مجموعة الحالات كانت مقسمة كالآتي: شحة الدورة في ٧٢,٤% بالمقارنة ٣,٥% في مجموعة الحالات الضابطة (P<0.001)، ظهور الشعر كان موجوداً في ٦٢,٩% من الحالات بالمقارنة مع ٥,٢% من المجموعة الضابطة (P<0.001).

أظهرت الفحوصات المختبرية وجود زيادة في نسبة السكر في الدم، الكولسترول، الترايكلسريد مع LDL-C (P<0.001) مع نقصان واضح في مستوى HDL-C (P<0.01) مقارنة بالحالات الضابطة.

تبين أن تكرار حدوث متلازمة الأيض في مجموعة الحالات كان ٣٤,٣% مقارنة مع ٦,١% في الحالات الضابطة وبفرق معنوي (P<0.001).

الخلاصة

إن إنتشار متلازمة الأيض في النساء اللواتي لديهن متلازمة التكيس المبيضي المتعدد هي ٦ مرات أكثر من الحالات الضابطة.

إن النساء المصابات بالتكيس المبيضي المتعدد لديهن خصائص سريرية وكيميائية مختلفة مثل: إرتفاع ضغط الدم، السمنة، إرتفاع نسبة السكر في الدم وإضطراب في مستويات الدهون، لذلك هؤلاء النساء لديهن عوامل كثيرة لزيادة الخطورة على القلب والأوعية الدموية ويكن أكثر عرضة لإصابات القلب.