Original article:

Evaluation of clinically suspected cases of Polycystic Ovarian Syndrome in rural area

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Abstract:

Introduction: One of the signs that PCOS is "hard wired" is that the endocrine changes that characterize this condition, including insulin resistance and androgen excess, can be detected in adolescence. Moreover it is possible to find out early clinical manifestations of PCOS in late puberty and early adolescence.

Methodology: Detailed history with specific emphasis on history of infertility, menstrual history i.e. history of oligomenorrhoea; regular or irregular menses, obesity, and presence of hirsuitism; acne; alopecia was done.

Results: Out of the 139 patients studied at PRH, majority (99.3%)of the patients had normal levels of Sr. FSH.These normal levels were of follicular and luteal phase.Only 1(0.7%) patient had decreased level of Sr. FSH.

Conclusion: In the current study, 110 (79.1%) patients had PCO evidence on USG of which 65 patients had exclusive USG findings. Of the 110 patients, 83 (59.7%) had both multiple follicles and increase in ovarian volume whereas 27 (19.4%) patients had increase in ovarian volume only.

Introduction:

One of the signs that PCOS is "hard wired" is that the endocrine changes that characterize this condition, including insulin resistance and androgen excess, can be detected in adolescence. Moreover it is possible to find out early clinical manifestations of PCOS in late puberty and early adolescence. [1]It has been pointed out that early diagnosis is needed for earlyintervention, includingbehaviourmodification, to minimize theimmediate and chronic consequences of PCOS. The common age of onset for PCOS is adolescence while the common time of diagnosisis during a woman's third or fourth decade of life because the majority of symptoms do notbecome evident until a woman reaches her twenties or thirties, even though some symptoms mayappear starting at menarche. Although PCOS is an endocrine disease, it affectsmany systems of the body resulting in reproductive, metabolic, and psychological consequences.[2,3]

Material and methods:

This descriptive cross-sectional study was carried out in the Department of Obstetrics and Gynaecology of Pravara rural hospital, Loni. The study was carried out for a period of 2 years from Sept. 2014 to Oct.

2016. All the patients who fulfilled the following criteria were included in study.

Inclusion criteria:

- Women of reproductive age group (15-35yrs).
- Women presenting with infertility.
- Women with irregular menstruation, acne, hirsuitism, obesity.

Exclusion criteria:

- Young women who had had their menarche less than three years.
- Women with secondary amenorrhoea, hyperglycemia, hyperthyroidism, hypothyroidism etc.
- Women having medical diseases such as heart disease, lung and renal disease etc.
- The patients visiting Obstetric & Gynaecology OPD in PRH, satisfying the above criteria were studied for the following

Detailed history with specific emphasis on history of infertility, menstrual history i.e. history of oligomenorrhoea; regular or irregular menses, obesity, and presence of hirsuitism; acne; alopecia was done.

Results:

Table No 1 :Sr. LH levels of PCOS patients

Sr. LH LEVELS (mIU/mL)	**NO. OF PATIENTS**	**%**
0.8-15.5 (Normal)	123	88.5
>15.5 (Increased)	16	11.5
TOTAL	139	100

Out of the 139 patients studied at PRH, maximum patients (88.5%) had normal levels of Sr. LH. These normal levels were of follicular and luteal phase. Remaining 16 (11.5%) had increased levels of Sr. LH.

Table No 2 :Sr. FSH levels of PCOS patients

Sr. FSH LEVELS (mIU/mL)	**NO. OF PATIENTS**	**%**
1.38-11.6 (Normal)	138	99.3
< 11.6(Decreased)	1	0.7
TOTAL	139	100

Out of the 139 patients studied at PRH, majority (99.3%)of the patients had normal levels of Sr. FSH.These normal levels were of follicular and luteal phase.Only 1(0.7%) patient had decreased level of Sr. FSH.

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Table No 3: Ratio of Sr. LH: Sr. FSH levelsof PCOS patients

RATIO	NO. OF PATIENTS	%
Upto 2 (Normal)	81	58.3
2 – 2.9	35	25.2
3 – 3.9	14	10.1
4 – 4.9	4	2.8
5 – 5.9	3	2.2
6 – 6.9	2	1.4
TOTAL	139	100

Of the 139 patients studied at PRH with evidence of PCOS, 58 (41.7%) patients had increased ratio of Sr. LH : Sr. FSH (i.e. ≥2:1). Remaining 81(58.3%) patients had normal ratio.

Table No 4:Correlation of Sr. LH, Sr. FSH values and their ratio in PCOS patients

HORMONE LEVELS	NO. OF PATIENTS	Sr. LH : Sr. FSH(RATIO)	
		RAISED	NORMAL
RAISED Sr. LH	16	16	-
DECREASED Sr. FSH	1	1	-
NORMAL Sr. LH & FSH	122	41	81
TOTAL	139	139	

Of the 139 patients studied, 16 patients had increased Sr. LH with raised ratio, 1 patient had decreased Sr. FSH with raised ratio and 41 patients had raised ratio despite of the values being in normal range.

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Table No 5 :Evidence of PCO on USG(TVS/TA)

EVIDENCE OF PCO ON USG	NUMBER OF PATIENTS	%
INCREASED FOLLICLES + INCREASED OVARIAN VOLUME	83	59.7
ISOLATED INCREASE IN OVARIAN VOLUME	27	19.4
NO PCO ON USG	29	20.9
TOTAL	139	100

Discussion:

Of the 127 married patients, majority of the patients 113 (89%) had their chief complaints as infertility which was associated with either irregular menstrual frequency or oligomenorrhoea. Only 2 patients with infertility did not have ovulatory dysfunction as a complaint but had other features of PCOS clinically or evidence based. 14 (11%) patients were unmarried and hence no feature of infertility,although they had clinical features of PCOS.[4]

Over 90% of normally menstruating women with hirsuitism were identified through ultrasound to have polycystic ovaries as per *Adams et. al.* [5]. In addition, PCOS occurs in 50% of women with less severe distribution of unwanted hair growth. Acne can also be a marker of hyper LH dominance is an important endocrinological event that plays a key role in the pathogenesis of PCOS. As per the findings in the current study, 16 patients had increased Sr. LH levels (with raised ratio), 1 patient had decreased Sr. FSH (with raised ratio). The ratio of Sr. LH: Sr. FSH was raised in 58 patients (of which 41 patients had increased ratio but normal levels of Sr. LH and Sr. FSH. This study is consistent with the findings of raised Sr. LH, low to normal Sr. FSH and raised ratio in PCOS patients as discussed in the literature above.[6]

Evidence of PCO on USGis considered as per Rotterdam criteria [3].

Conclusion:

In the current study, 110 (79.1%) patients had PCO evidence on USG of which 65 patients had exclusive USG findings. Of the 110 patients, 83 (59.7%) had both multiple follicles and increase in ovarian volume whereas 27 (19.4%) patients had increase in ovarian volume only.

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