



Study of 100 Cases of Infertility with Polycystic Ovarian Syndrome at a Tertiary Hospital

Author

Dr Shazia Nisar

Senior Resident Department of Obstetrics and Gynaecology Skims Soura

*Correspondence Author

Dr Shazia Nisar

Senior Resident Department of OBG, Skims Soura

Abstract

This study "study of 100 cases of infertility with pcod" was carried in department of OBG at skims soura.

Aims & Objectives: *To study the impact of pcod in infertility and different treatment modalities*

Inclusion Criteria: *All cases of primary and secondary infertility*

Exclusion Criteria: *All other causes of infertility. Hyperprolactinemia, male factor infertility, hypothyroidism*

Results: *Most common age group of infertile pcod was 25 years. Primary infertility was seen in 80%. Duration of infertility was <3 years. pcod was more with BMI >26. In our usg was used as main dx criteria. Treatment was started as life style modification, followed by treatment with ovulation induction drugs with and without metformin, and laproscopic ovarian drilling.*

Introduction

Infertility is the apparent failure of a couple to conceive after one Year of unprotected intercourse because of one or other reason. Among the ovulatory factors the most important cause is pcod., that Leads to an ovulatory infertility^(1, 2,3). The prevalence of pcod is 5-10% in women of child bearing age.^(4,5)

Clinical features of patients affected by pcod include infertility, both Primary and secondary, menstrual irregularities, hirsutism, acne because of Hyperandrogenism^(6,7). This needs to exclude other causes of hyperandrogenism

Such as congenital adrenal hyperplasia, androgen secreting tumours Hyperprolactinemia. Pcos is also known as Stein leventhal syndrome and Is actually a multi system disorder affecting skin,

hair and reproductive System⁽⁸⁾. In year 2003 Rotterdam held a conference that was Sponsored by ESHRE (European society of human reproduction And Embryology) and ASRM (American Society for reproduction Medicine) In this conference diagnostic criteria of pcod Was established on the basis of at least two of the three Criteria;

- 1) Oilgo-ovulation/anovulation
- 2) Clinical and biochemical signs of hyperandrogenism
- 3) Polycystic ovaries on usg⁽⁹⁾.

Pathology of pcod has genetic component and is transmitted as autosomal dominant trait. Besides genetic other factors

Are implicated in occurrence of pcod including dietary factors, Environmental and still

undefined⁽⁸⁾. Obesity is said to have Important impact on severity of disease particularly abdominal one⁽⁹⁾.

As pcod is associated with long term implications like hypertension, Diabetes melitus, endometrial carcinoma so it needs through Evaluation and treatment⁽¹⁰⁾

Material and Methods

This study which was carried over a period of one Year from may 2018- June 2019 in a tertiary hospital of skims soura 100 cases of infertility with pcod were studied. All the Women presented with infertility were subjected to History and examination. History was taken as regards to age, type of infertility, menstrual history, medical history Surgical history, sexual history.

General examination included height, weight, BMI, examination For hirsutism, acne, acanthosis. Laboratory investigations Included day 2nd (FSH and LH), prolactin, TFT (thyroid function Tests), pelvic scan and husband semen analysis.

Results

Age distribution in infertile pcod patients.

AGE	No. Of patients	percentage
1.20-27	50	50%
2 27-35	25	25%
3.35-40	25	25%

Thus majority of patients (50%) we're in age group of 20-27.

Type of infertility seen in infertile pcos

Type of infertility	No.of patients	percentage
Primary	80	80%
Secondary	20	20%

Thus primary infertility was seen in majority of patients (80%)

Duration of infertility:

Duration	Percentage
1.less than 3 yrs	60%
2.more than 3 yrs	40%

Thus in 60% of patients duration of infertility was less than 3 yrs.

Inclusion Criteria

- 1) Age of 20_35 years were included
- 2) Primary as well as secondary infertility.

Exclusion Criteria

- 1) Patients with other causes of infertility other than Pcod.
- 2) Patients with hyper prolactinemia
- 3) Hypothroid patients
- 4) Male factor infertility

Infertile patients with pcod were given medical Management as well as surgical management.

Medical management include clomifene starting at Dose of 25 mg _ 50mg_100mg from day 2 to day 7 Letrozole was also given starting from dose of 2.5 mg_5 mg_7.5mg From day 2_ day 7 . Folliculometry was done on day 14 of cycle. Those with follicular diametre of 18 mm- 20mm were given Injection HCG 5000i.u I. M stat and signs of follicular rupture We're noted on usg I. e sudden disappearance of follicle and signs of free Fluid in pelvis. Metformin was also added to above regimen of Ovulation induction. It was given as 500mg od_500mg bd_ 500mg Tid

Distribution of BMI in pcod patients

BMI	no. Of patients	percentage
1.<25	40	40%
2.26-29	35	35%
3.>30	25	25%

Thus 60% of pcod patients were having BMI >26.

Menstrual pattern in infertile pcod patients

Regular cycles	30 patients	30%
Irregular cycles	70 patients	70%

Thus irregular cycles were seen in 70% of patients. We're as Regular cycles were just in 30% of patients.

Ultrasonography finding in pcod:

Morphology of ovaries	no. Of patients	%
Bulky ovaries	80	80%
Normal ovaries	20	20%

Thus 80% of pcod patients had bulky ovaries on usg

LH/FSH ratio in pcod patients

Ratio	no. Of patients	percentage
<1	20	20%
1-2	30	30%
>2	50	50%

Thus 50% of patients had LH/FSH ratio >2.

Treatment outcome in infertile pcod patients

Treatment	ovulation	conception
Diet/exercise	40%	20%
Clomiphene	60%	40%
Letrozole	70%	50%
Metformin		10%
Laprosopic	80%	60%

Ovarian- drilling with drugs

Discussion

IN our study the mean age of infertile pcos was 20-27, mean age 25 years indicating that pcos effects young

Females. Result of this age group is similar to vrunda et al⁽¹¹⁾

In this study all patients (100) we're infertile, 80% having primary infertile and 20% having secondary infertile. Similar results were found by study of vrunda et al⁽¹¹⁾ with Increased incidence of primary infertility. Duration of infertility in Our

study was <3 years, the cause infertility in pcod can be diverse; anovulation, hyperandrogenism, variation in FSH/LH ratio, hyperinsulinemia.

Furthermore it was seen pcos was more in infertile patients with basal metabolic rate(BMI) >26(50%), reason for this is obesity causes hyperinsulinemia with increased Insulin resistance, decrease in serum hormone binding globulin, Increase androgens that in turn cause anovulation and infertility With menstrual irregularities. This is

similar to study conducted In Delhi⁽¹²⁾ which showed pcos was more in overweight and Obese. Menstrual pattern was irregular in 70% of pcod patients while It was regular in 30% of patients. In our study usg was used as Diagnostic criteria which showed bulky ovaries in 80% of patients While as normal ovaries were seen in 20% of patients. Usg is thus best diagnostic method along with clinical and laboratory methods. It is also mentioned in prospective study of Atiomo wu et al⁽¹³⁾

If we take laboratory data in consideration, LH:FSH ratio Was derranged because of increased frequency and amplitude of LH pulse.

In our study LH:FSH ratio was >2 in 50% of patients. If we go towards management part diet and exercise

(Life style modification) was ist line therapy it resulted in 40% Chances of ovulation and 20% chances of conception.

Second line therapy was medical management, clomiphene Was given first that resulted in ovulation in 60% and conception In 40%. letrozole resulted in ovulation in 70% of patients and conception In 50% of patients while as in study by Guang Hj et al⁽¹⁴⁾ it was 50% conception by clome and 63% conception by letrozole that is almost comparable. Addition of metformin to above therapy improved the chances of ovulation. Resistant cases were treated with laproscopic Ovarian drilling that resulted in ovulation in 80% of cases and conception in 60%.

Conclusion

Pcod is a disease of young age group, mean (25) years, more Common in obese and overweight patients. Common presenting Symptoms are infertility, menstrual irregularities with features of hyperandrogenism. Lifestyle modification (diet and exercise) is First step approach to reduce the burden of pcod in community and is quiet cost effective, it corrects the root cause of pcod. Other treatment modalities are medical management and laproscopic Ovarian drilling. If pcod is not treated

in time it can lead to long term complications like cardiovascular risks, endometrial carcinoma.

Bibliography

1. Meir Rk. Polycystic ovarian syndrome. Nurse clin North America. 2018;53: 407_20.
2. Marciniak A, Lyman_ Larysz K, Nawroeka_Rutkowska Just. Polycystic ovary syndrome_current state of knowledge. Police Mercury lekarski 2018;44:296_301.
3. Homburg R. The management of infertility associated with Pcos. Reprod Biol Endocrinol 2003;1:109
4. Mandrelle k, kamath Ms, Bondu DJ, chandy A, Aleyamma T, George k, et al. Prevalance of metabolic Syndrome in women with polycystic ovary syndrome attending an infertility clinic in a tertiary care hospital In South India.j Hum Reprod SCi 2012;5_26-31
5. Ramanand sj,Ghongane BB, Ramanand JB, Patwardhan MH, Ghanghas RR, Jain SS et al. Clinical characteristics of polycystic ovarian syndrome in Indian woman. Indian J endocrinol Metab 2013;17:138_45.
6. Goudas VT, Dumesic DA. Polycystic ovarian syndrome. Endocrinol Metab clini North America. 1997;26:893-912.
7. Rotterdam ESHRE/ASRM sponsored pcos consensus Workshop group. Revised 2003 consensus on diagnostic Criteria and long term health risks related to polycystic Ovarian syndrome (pcos). Fertil Steril. 2004;81(1) :19_25
8. Ehrmann DA. Polycystic ovary syndrome. N Engl J Med 2005;352(12) :1223_1236.
9. The Rotterdam ESHRE/ASRM sponsored pcos consensus Work shop group. Revised 2003 consensus on diagnostic criteria and Long term health risks related pcos. Hum Reprod 2004;19(1) :41_47
10. Palomba S, Santagi S, La Sala GB. Compilation and Challenges associated

with polycystic ovarian syndrome: current perspectives. Int j women health. 2015;7:745_63

11. Vrunda D, Parul S, Rajal The, Kruti D. Study of 100 cases of infertility in polycystic ovarian syndrome and it's management outcome. Int Med Sci public health 2013; 2:1041_5
12. Saxena P, Prakash A, Nigam A, Mishra A, polycystic Ovary syndrome : is obesity a sine qua non? A clinical, hormonal and metabolic assessment in relation to body mass index. Indian j Endocrinol Metab 2012;16:996_9
13. Atiomo qua, Pearson S, Shaw S, Dubbins P. Ultrasound Criteria in diagnosis of PCOS. Ultrasound Med Biol.2000; 19:41_7
14. Guang HJ, Feng L, Jun S. Letrozole for patients with patients with polycystic ovary syndrome. Med 2018;97:44.