ORIGINAL ARTICLE

Subfertility and Polycystic Ovarian Syndrome in patients Presenting to Gynaecology Outpatients Department of Allama Iqbal Memorial Teaching Hospital, Sialkot

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ABSTRACT

Aim: To determine the incidence of polycystic ovarian syndrome in patients of infertility presenting to Gynaecology outpatients department of Allama Iqbal Memorial Teaching Hospital. Sialkot.
Study Design: Prospective study.
Time and Place of study: Department of Gynaecology; Allama Iqbal Memorial Teaching Hospital, Sialkot. From 1st August 2015 till 31 October 2017.
Methods: In a period of 27 months, all patients who attended the infertility clinic of our gynaecology OPD were enrolled. All the patients were managed and detailed history examination followed by relevant investigations carried to reach a definite diagnosis. Patients were classed into two groups Group I with PCO and Group II having causes other than PCO.Patients were managed according to the causes established after investigations. Data was collected and analyzed using SPSS v 20.
Results: Total number of patients was 550(100%),out of which 354 patients were of age >21 years and 196 patients had the age <20 years. Polycystic ovaries were a cause of primary infertility in 65% of patients in our study, postoperative adhesions were present in 5% patients, 50% were obese, 80% were anemic & 12% had genital tract abnormalities, chromosomal anomalies were present in 24% of patients, while in 2% patients, etiology could not be established.
Conclusions: Polycystic ovaries is a common cause of infertility and it has varied presentations. Its treatment is challenging and close follow up is required for good results.
Key words: Polycystic ovary syndrome hyperandrogenism, hirsutism, androgenic alopecia

INTRODUCTION

Polycystic ovary syndrome (PCOs)is a hormonal problem that causes women various symptoms including; irregular or no periods, acne,obesity,excess hair growth. All women with PCO have irregular or no menses women with PCO do not ovulate(do not release an egg every month).

PCOs is a condition characterized by irregular periods and metabolic features of hyperandrogenism. PCOs can occur at any age from childhood to old age. In childhood it present with premature puberty, in teenage presentation is hirsutism menstural irregularities, early and middle adult life present with infertility & glucose intolerance, in later life presented with diabetes mellitus & heart problems. PCOs also have cutaneous involvement including hirsutism, acne, androgenic alopecia & acanthosis nigricans. Treatment of skin proplems requires a multi team approach including drug therapy , reassurance, counselling, life stylemodification and cosmetic procedures[1].

Polycystic ovarian disease (PCOD) is the most popular endocrine disorder among women. Presentaion of symptoms are variable &often involved one or more body functions. Most important clinical features are menstrual irregularities, obesity, hirsutism , hyperinsulinemia, insulin resistance, multiple cysts in ovaries. Other features are male balding pattern, velvety skin (acanthosis nigricans, sleep apnea ,increased hypertension risk, CVS diseases, DM, endometrial CA & ovarian androgen n LH increased production. Some authors believe that PCOD may vanish after menopause or symptoms can persist. Cause is still not known. It is an autosomal dominant transmission according to genetic studies due to decreased penetrance of hypersensitive intra-ovarian insulin androgen signaling with changes in gonadotropin levels, reduced insulin sensitivity & hyper-androgenism. Hyperinsulinemia leads to hyperlipidemia & obesity because it stimulates lipid storage with changes in lipoproteins and cholesterol. These abnormalities might be due to anti-mullarian hormone. PCOD in peri -menopausal women is difficult to diagnose, but one important clinical presentation is irregular mensturation. Poly cystic ovaries (PCO) is known feature of PCOD associated with other abnormalities like central obesity(android type) ,having waist to hip ratio (WHR) of >0.8.Popular diagnostic criteria ; Fasting Glucose Insulin Ratio (FGI). Hyperinsulinemia leads to increased levels of triglycerides, LDL and cholesterol with decreased levels of sex hormone binding globulin(SHBG).Preventive measures are limited. Clinical management only treats symptoms and prevents long term complications. OCPs played important role in treating irregular mensturation. Insulin resistance ,endocrine&metabolic abnormalities can be treated with insulin-sensitizing agents. Metformin, extensively used &not linked with hypoglycaemia risk or increase insulin secretion. Weight loss consider a protected therapy. long term follow up is necessary to determine the prognosis. Patient education regarding risk of DM, cardiovascular risk ,obesity & endometrial cancer is very important.

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PATHOGENESIS

PCO's pathogenesis poorly understood, insulin resistance leading to hyperinsulinemia may be consider a primary defect. Cardinal feature in ovaries is functional hyperandrogenism. Theca cells that surrounds the follicle & produce androgens ; which converted in esotrogen in ovaries are overresponsive to increase levels of circulating insulin &LH.Increased levels of androgens, estrogens, insulin and LH explains PCOS presentation of anovulation, dysfunctional bleeding, hirsuitism, and dysfunction of glucose metabolism.

Signs and symptom: Symptoms have a gradual onset, they start atbthe time of menarche but most patients do not bother it or seek help in their mid 20's. Irregular mensturation is a typical complaint that leads amenorrhea to menorrhagia and metorrhagia. Asthese patients are anovulatory, all of them present with infertility issues & have increased risk of pregnancy loss & complications during pregnancies. PCOS mostly associated with obesity that may leads to insulin resistance ,but insulin resistance sometimes independent of obesity in PCOS.their has been an increased risk of metabolic syndromes like dyslipidemias, type 2 DM, hypertension and obesity. Dermatological menifestaions of PCOS ; Hirsutism acne, androgenic alopecia& acanthosis nigicans. **Hirsutism** is defined as excessive facial and/or body hairs in a male pattern distribution. It is due to intraction between androgens and hair follicles sensitivity to androgens . hair growth starts at pubertydue to raised levels of androgens. Ferriman – Gallwey scoring system is used to quantify the extent of hair growth at androgen sensitive sites . A score of >8 is abnormal for adult Caucasian females .Limitations of this scoring system are that it is subjective and is effected by any previous or ongoing treatment. **Androgenic alopecia:** There is progressive loss of terminal scalp hair in genetically succeptible women with diffuse thinning of hair diameter, length and density (hairs/cm).The pattern may embrace progressive thinning of the crown with preservation of hair-line or take on a male-pattern form with bitemporal recession. Various grading systems used for grading androgenic alopecia are Ludwig's scale (grade1 – grade3) and Olsen's scale

RESULTS

Statistical data in general for the two groups is shown in Table I. Table II shows etiology of primary infertility in our patients. Presentations of the patients is shown in Table III

Table I – General Data

Total no (n)	550	100%
Age >21years	354	
Age <20 years	196	

Table II- Etiology

Polycystic ovaries	357(65%)
Postoperative adhesions	27(5%)
Obesity	275(50%)
Malnutrition/ anaemia	440(80%)
Genital tract anomalies	66(12%)
Chromosomal anomalies	132(24%)
Etiology couldnot be established	11(2%)

Table III- Presentations of Polycystic ovarian syndrome

Symptoms	**Group I teen age women (14-20 yrs) 300(100%)**	**Group II women of older age (>21years) 250 (100%)**
Irregular menstruation	246 (82%)	197 (79%)
Hirsutism	180 (60%)	142 (57%)
Rapid weight gain	156 (52%)	182 (73%)
Difficult pregnancy	225 (75%)	187 (75%)
Cystic ovaries	270 (90%)	200 (80%)
Metabolic changes	135 (45%)	145 (58%)
Hormonal changes	111 (37%)	122 (49%)
Acantosisnigricans	45 (15%)	75 (30%)
Hair loss	60 (20%)	45 (18%)
Acnae	24 (8%)	25 (10%)
Oily skin	21 (7%)	12 (5%)
Mood changes	36 (12%)	2 (1%)
Mental disturbance	21 (7%)	7 (3%)
Physcological stress	18 (6%)	32 (13%)

DISCUSSION

Our study showed that irregular menstruation was a presentation of polycystic ovarian syndrome in 82% of patients in group I & 79% of patients in group II, while it was present in 75% of patients according to the study by Karoli et al[11].

We presented hirsutism in 60% of patients in Group I & in 57% patients in Group II, while it was a presentation in 59% patients in the study by Setji et al[12]. Our data showed rapid weight gain was present in 52% patients in group I & 73% in Group II, while it was present in 63% according to Legro et al[13]. We observed the complaint of difficult pregnancy in 75% of patients of Group I & II, while Wang et al[14] observed it in 77 % of patients in their study. Cystic ovaries were present in 90% of patients in Group I & in 80 % patients in group II ,while they were present in 85 % patients according to Schmidt et al[15].

45% of patients in Group I & 58% in Group II had metabolic changes, while these changes were present in 50% of patients according to data given by Bhattacharya et al[16].

Hormonal changes occurred in 37% patients in Group I & 49% patients in Group II , while they occurred in 50% patients in the study of Boivin et al[17]. We had acanthosis nigricans in 15% patients of Group I & 30% patients of Group II, while Franks et al[18] observed this presentation in 23% patients.

Hair loss occurred in 20% patients of Group I & 18% patients of Group II, while it was in 15% patients in the data of Spritzer et al[19]. We reported the incidence of acne in 8% patients in Group I & in 10% patients in Group II, while Azziz et al[20] reported it in 12% patients in their study.

Goldzeiher Et al[21] had 3% patients with oily skin, while we had 7% of those in Group I & 5% in Group II. The study of Rotterdam[22] showed that 8% patients also had the complaints of mood changes, while our study presented that these changes were present in 12% patients of Group I & 1% Patients of Group II.7% patients in Group I & 3% patients in Group II presented with mood changes, while according to the study by Baracatt et al[23] , 5% patients were presented with the same complaints We had 6% patients with psychological stress in Group I &13 %

patients in Group II , while they were 7% according to the data by Ning et al[24].

CONCLUSIONS

Polycystic ovaries is a common cause of infertility and it has varied presentations. Its treatment is challenging and close follow up is required for good results.

Conflict of interests: No conflict of interests to be declared

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