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ORIGINAL ARTICLE

# To Determine the Role of Iodine Polymers (Idomarine) in The Treatment of Oligomenorrhea and Polycystic Ovarian Disease in Students for Sir Syed Medical College for Girls Karachi

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## ABSTRACT

**Objective:** To determine the role of Iodine Polymers (Idomarine) in the treatment of Oligomenorrhea and Polycystic ovarian disease in Students for Sir Syed Medical College for girls Karachi.

**Study Design:** Interventional study.

**Place and Duration:** Outpatient department of Sir Syed Hospital from 1<sup>st</sup> November 2013 to 30 April 2014.

**Methodology:** One hundred students were included in the study, after taking an informed consent. Information was gathered and rest assured that they were not taking any medication within last 6 months. The Investigations carried out included serum fasting insulin levels, thyroid profile, serum F.S.H L.H and prolactin and ultrasound of pelvis. Capsule iodine polymer (Idomarine) 50mg twice daily were prescribed for eight weeks to all the students.

The information about study variables were collected by administrating a predesigned questioner.

**Results:** A total of 100 students were included in this study. Iodine polymer (Idomarine) 50mg twice daily for 8 weeks was given to them. Most of the students around 56% able to perform serum FSH & LH. Ultrasound was done by 30% of the students and almost all showed polycystic ovaries. Thyroid profile was done in 11% & serum insulin was carried out in only 3 % of students. Almost all of them had some symptoms majority complained of menstrual irregularity 42%, followed by weight gain in 26% pelvic pain 21% & hirsutism 11%. The side effect of the drug was minimal, and majority 81% had no symptoms. Mood swings were noted in 11% of the students followed by nausea 6% and headaches in 2%.

Majority responded to the medication only 2 did not respond to it and were put on alternate drugs.

**Conclusion:** Polycystic ovarian disease is on the rise in young girls of reproductive age group. It can be predicted reliably with the help of clinical laboratory investigations and ultrasound. Iodine polymer was used by all students and showed marked improvement in symptoms of Polycystic ovarian disease syndrome. The iodine Polymer complex (Idomarine) used in the treatment of PCO and menstrual irregularity helped almost all the students without the intervention of any other hormonal medication not to forget they were also told to have life style modification, along with dietary restrictions.

**Key words:** Medical students, Polycystic ovarian disease, Menstrual Irregularity.

## INTRODUCTION

Polycystic ovary syndrome (PCO) is a common endocrine disorder in women of reproductive age group<sup>1</sup> Polycystic ovarian syndrome affects 4 % to 12 % of women of reproductive age group and 6.5 – 6.7% of all perimenopausal women. The disorder originally described as cystic disease of the ovaries by Stein & Leventhal is now considered to be associated with endocrine and metabolic disturbances such as hypertension, impaired glucose intolerance and type 2 diabetes mellitus, heart disease and increased risk of endometrial and perhaps breast cancer, Menstrual disorders

are most commonly seen in gynaecological practice.<sup>2</sup>

In 1985 Adam et al described diagnostic criteria PCO as presence of ten or more follicles measuring 2-8mm in diameter arranged peripherally or scattered throughout and increased amount of stroma, later in 1909 other studies described use of ovarian volume 10<sup>3</sup> cm as a marker PCOS.<sup>3,4</sup>

Rotterdam consensus conference recommended any 2 of 3 criteria- chronic oligo an ovulation, hyperandrogenism and PCO on imaging.

## To Determine the Role of Iodine Polymers (Idomarine) in The Treatment of Oligomenorrhea and Polycystic

PCO is a major health concern represents a major health issue affecting young woman of today.<sup>5</sup>

The menstrual pattern is affected by number of endocrine derangement responsible for clinical manifestation of the disease. Thyroid acts directly on the ovaries which contain highest concentration of iodine after thyroid gland women are prone to iodine deficiency treating thyroid dysfunction can reverse menstrual abnormalities and thus improve fertility.<sup>6</sup>

Most surgeons view iodine from narrow perspective, with its use as antiseptic and as a disinfectant.

In organic iodine neutralized hydrogen peroxide thereby preventing it to become Hydroxyl radical which is very specific for kelp (algae) absorbs increased amount of iodine when placed under oxidative stress.<sup>7,8</sup>

The purpose of this study was to highlight the benefits of iodine in the form of iodine polymer containing iodine salt, extract of kelp, algae, ascorbic acid in oral pills 50 mg. in young students of Sir Syed Medical College ( instead of hormonal treatment and also documents the response to treatment.

### METHODOLOGY

The study was conducted from November 2013, to April 2014 at Sir Syed Hospital Karachi.

100 students were enrolled and completed the study period.

The students included were between 18-25 years and ensured that all of them were not taking any medication within acquired period.

An informed consent was taken from all the students.

The information about study variables were collected by administrating a predesigned questionnaire.

The proforma included biodata of patients, clinical presentation and investigations.

All students were explained about due benefits and risks of treatment (burning of mouth/throat, and stomach abdominal pain, nausea, vomiting, diarrhea, weak pulse and also expense.

All students received 50mg iodine complex in capsule twice daily for a period of eight weeks.

In addition to medication an advice for life style modification was given.

### RESULTS

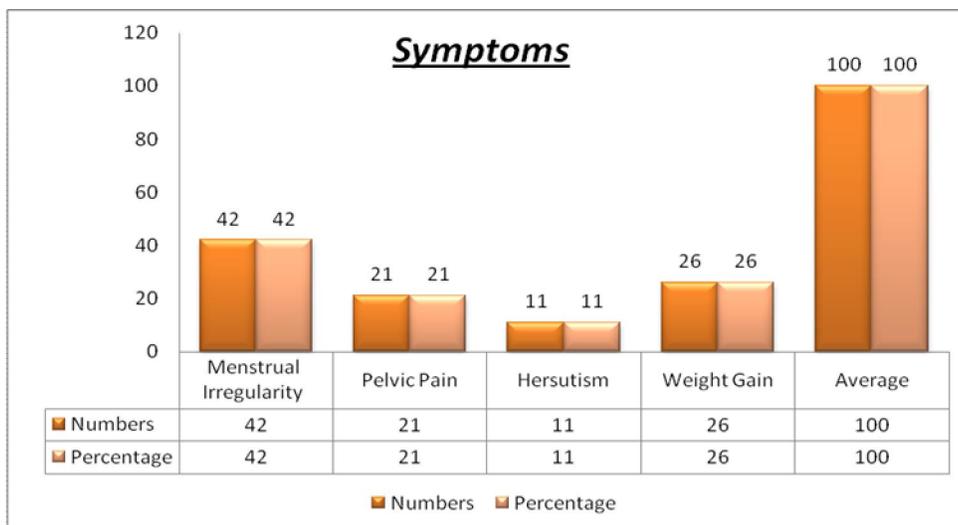
A total of 100 students were included in this study. Iodine polymer (Idomarine) 50mg twice daily was given for 8 weeks. All the students had some symptoms majority complained of menstrual irregularity 42%, followed by weight gain in 26% pelvic pain 21% & hirsutism 11%.

Most of the students had carried out investigations FSH/LH in 56%. Ultrasound showing PCO 30% of students & Thyroid tests 11%. S. insulin carried out by only 3% of students.

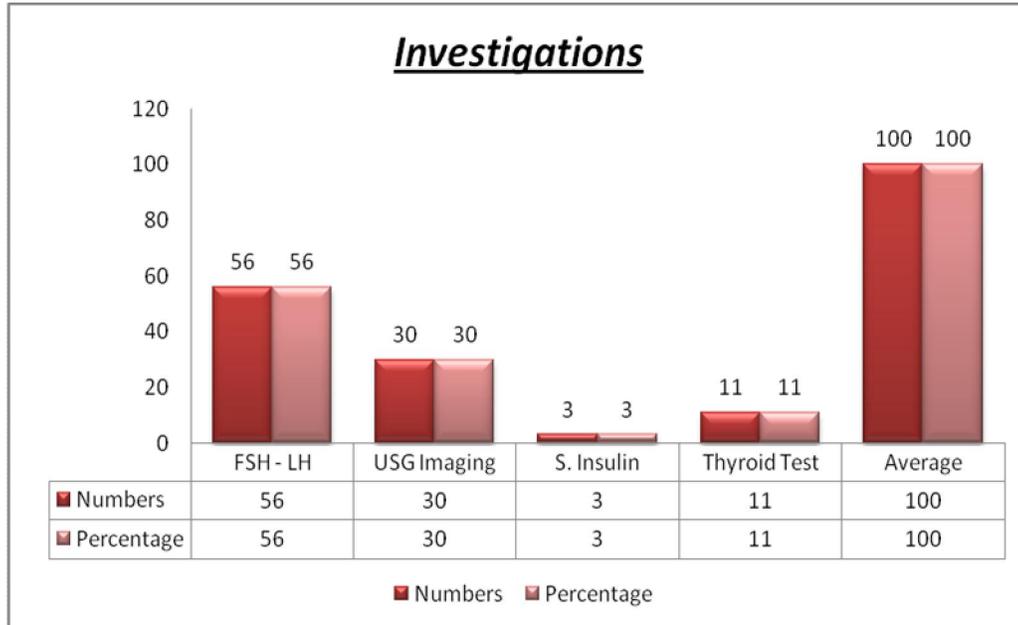
The side effect of the drug was minimal 81% had no symptoms. Mood swings were noted in 11% of the students followed by nausea 6% and headaches in 2%.

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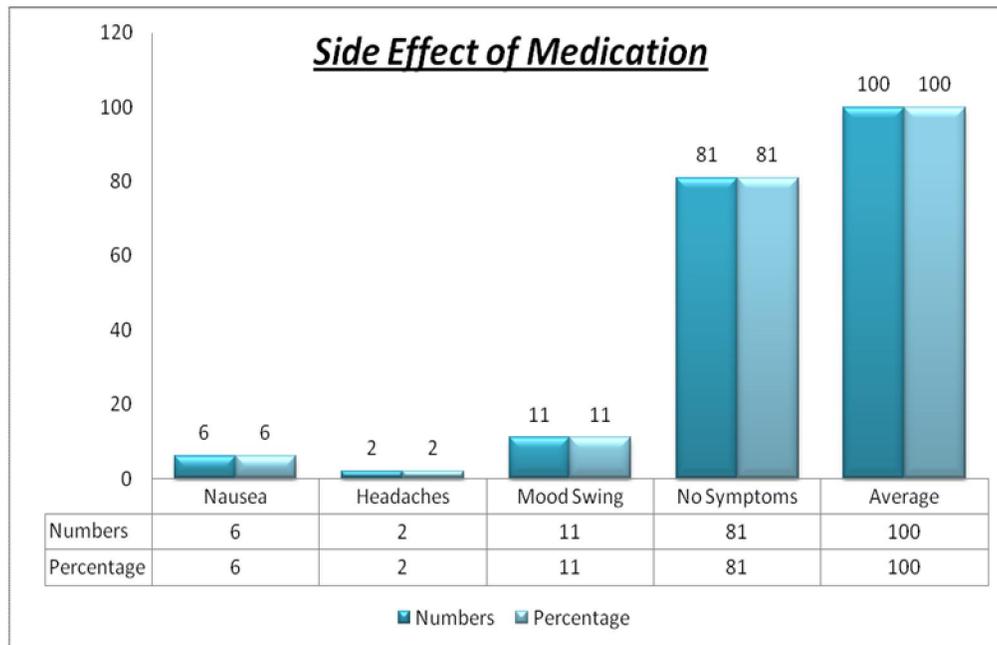
### SYMPTOMS



## INVESTIGATIONS



## SIDE EFFECT OF MEDICATION:



## DISCUSSION

Polycystic Ovarian Disease Syndrome was also called Stein Leventhal syndrome after the name of two doctors who first described it in 1935.

It is the most common ovarian disorder with typical features of obesity, an ovulation, hyper androgenism, hirsutism and infertility.

Its occurrence varies from 1.8% in the general population depending upon diagnostic criteria. It is not purely an ovarian disease but an extremely heterogeneous clinical syndrome that should be recognized as a systemic endocrine metabolic disorder.<sup>9,10,11</sup>

## To Determine the Role of Iodine Polymers (Idomarine) in The Treatment of Oligomenorrhea and Polycystic

In mid 1980s it was found that insulin resistance and hyperinsulinemia were also important component of PCO.<sup>12,13</sup>

All 100 students in the study presented with definite symptoms of which menstrual irregularity was the commonest symptom followed by pelvic pain.

Conway in 1989 found that 75% to 80% of women with PCO had menstrual irregularities.<sup>14</sup>

The menstrual pattern is influenced by thyroid hormone by its direct action on ovaries and in an indirect way via its impact on sex hormone binding globulin (SHBG) protein and Gonadotropin releasing hormone.

In our study 11 % students had altered thyroid test.

The ovaries contain highest concentration of iodine after thyroid gland. Research has shown that there is a cystic change of ovarian iodine content associated with ovarian activity that is the iodine content are highest at the peak of ovarian activity and decreases with the decline of ovarian activity. It is therefore concluded that iodine deficiency causes the ovaries to develop cysts, nodules and scar tissues.

At its worse this ovarian pathology is very similar to that of PCOs. Women are naturally prone to iodine deficiencies when they are under stress and the need for iodine can double and triple.<sup>15</sup>

Biochemical Derangements came in mid 1950 with detection of elevated urinary luteinizing hormone levels. Later increased androgen production was also recognized in mid 1980s it was found that insulin resistance in hyperinsulinemia is also important components of PCOs<sup>16,17</sup>. The study showed that only 3% students had carried out test and had little knowledge about it. Fasting serum insulin is an expensive test and hence many students could not afford it.

Polycystic ovarian syndrome remains a mystery which is a disease of young women of reproductive age group. It is of public health importance as it has a number of long term health sequelae. Women with PCOs often have family history of PCO hirsutism, acne and menstrual irregularities in relatives who are more likely to suffer from hypertension and diabetes.<sup>18,19</sup>. In this study 100 students had definite symptoms with menstrual irregularities 42% having highest figures followed by weight gain 26%. Pelvic pain 21% Hirsutism 11% respectively.

Conway in 1989 found 75% to 80% women with PCO had menstrual irregularities<sup>21</sup> our study results are comparable to this study. An advancing symptom debated was weight gain which was signified by 26% of the participants.

Gambinri etal have also reported 50% of PCOs were overweight and obese<sup>20</sup>.

The laboratory investigations showed LH: FSH was carried out by 56% of students. Thyroid test showed altered report in 11%, which means that many students had thyroid problems. Legros etal found a modest association between LH:FSH in PCOs<sup>21</sup>. This ratio is typically reversed in PCO.

Ultrasound Imaging was carried out 30% of students although Ultrasound being a non invasive test students showed no hesitancy in performing it.

Although we tried performing Ultrasound by single handed sonologist but were not successful. In our results showed marked variation due to the fact that ultrasound is operational dependent.<sup>22</sup>

All 100 students in this study showed anxiety towards the diagnosis of PCOs. Maria etal in Feb 2002 showed adolescents PCOs show lower physical functioning, general behavior limitations and family activities because of general outlook and illness.<sup>23</sup>

Our study correlates with this study that young girls have psychological problems in PCOs and need to be dealt with promptly. This was the reason that students agreed using iodine polymer (idomarine) as an alternative to hormonal treatment. When given 50mg twice a day capsule majority had no effects 11% had mood swings 6% had nausea 2% had headaches. Majority responded to treatment and resumed normal cycles. The good thing about iodine polymers is that it was derived from sea weed and was a herbal product.

## CONCLUSION

Polycystic ovarian disease is on the rise in young girls of reproductive age group. It can be predicted reliably with the help of the clinical laboratory investigations and ultrasound. Iodine polymer was used by all students and showed marked improvement in symptoms of Polycystic ovarian disease.

The iodine Polymer complex (Idomarine) used in the treatment of PCO and menstrual irregularity helped almost all of the students without the intervention of any other hormonal medication not to forget they were also told to have life style

modification, by adding physical activity, reducing weight and decreasing carbohydrate intake.

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