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### Polycystic Ovarian Syndrome

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# Polycystic Ovarian Syndrome

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## Introduction

The main goal of this project was to educate peers on the pathophysiology of a disease or disorder of choice. The topic to be discussed is Polycystic Ovarian Syndrome (PCOS). This topic was chosen based on personal interest in women's health issues.

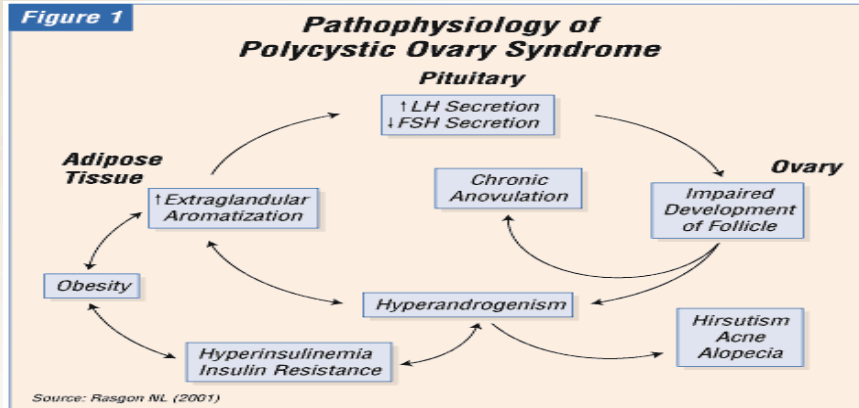
PCOS is a metabolic disease affecting 5-10 percent of women of childbearing age (Morgan, 2013). Polycystic ovaries as defined by Thornton, Von Wald, and Hansen (2015) are 12 or more follicles present in at least one ovary, measuring 2-9mm with more than 10ml volume. Characteristics of PCOS include enlarged ovaries consisting of multiple small cysts surrounding the outer ovary, with unknown cause (Morgan, 2013). Leading to the ovaries producing an increased amount of androgen (male hormones) (Morgan, 2013).

## Signs & Symptoms

- Obesity
- Excessive facial and body hair
- Increased muscle size
- Reduced breast size
- Acne
- Amenorrhea (absent menstrual cycles)
- Menstrual irregularities
- Anovulation
- Hyper androgenism
- Insulin resistance
- Cardio-metabolic abnormal
- Ovarian polycystic appearance on ultrasound (Morgan, 2013)

## Underlying Pathophysiology

- Endocrine disorder with reproductive and metabolic outcomes (DiVasta, 2013)
- PCOS is a metabolic disease affecting 5-10 percent of women of childbearing age. (Morgan, 2013.)
- The condition is characterized by enlarged ovaries consisting of multiple small cysts surrounding the outer ovary, with unknown cause (Morgan, 2013).
- Insulin resistance
- Insulin stimulates the ovaries to secrete androgen and decreased SHBG which indirectly stimulates testosterone leading to increased plasma androgen concentration (Montplaisir, 2011)
- Leptin levels are elevated which influences hypothalamic to release GnRH
- The inappropriate gonadotropin secretion triggers a cycle that leads to anovulation
- ↑ LH
- ↓ FSH



## Significance of Pathophysiology

- Impaired glucose tolerance, insulin resistance and  $\beta$ -cell dysfunction are d/t the abnormal glucose regulation increasing risk of Type 2 diabetes (Montplaisir, 2011)
- The hormone imbalance may lead to the following issues
- Fertility issues
- Insulin resistance
- Type 2 diabetes
- Hypercholesterolemia
- Infrequent ovulation
- Heart disease
- Greater risk HTN and cardiovascular disease
- Sleep apnea- contributing factors include obesity, insulin resistance and hyperandrogenemia (DiVasta, p.65)
- Fatty liver disease is associated with obesity, dyslipidemia and insulin resistance (DiVasta, p.65)
- Increased risk of endometrial cancer
- 3 times greater risk of uterine cancer

## Nursing Implications

- Be supportive
- Assist patient in learning to manage sugar cravings
- Encourage exercise
- Educate about anti-inflammatory diet and lifestyle
- Refer patients to counseling for potential psychosocial issues (Morgan, 2013)

## Conclusion

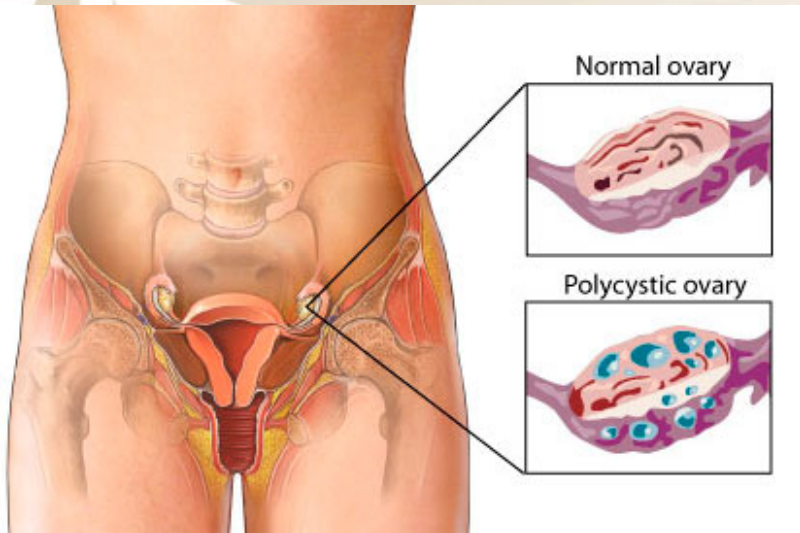
Polycystic Ovarian Syndrome is more than just a lack of menstrual cycles and infertility. Long term health issues may develop such as heart disease, Type2 diabetes and possibly endometrial cancer. Diagnosis is difficult with hyperandrogenism being a key component. Utilizing test such as the oral glucose tolerance test, lab workup, will assist in determining a treatment plan.

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