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Polycystic Ovary Syndrome (PCOS) - Metabolic and thrombotic comorbidity
A cross-sectional study

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INTRODUCTION AND BACKGROUND
PCOS is the most common endocrine disorder among women in the reproductive age with a prevalence of 10%. Women with PCOS are a complex heterogeneous group. The syndrome is defined by at least 2 of the 3 following criteria (Rotterdam criteria 2003):
- Glucose or andronome
- Clinical signs of hyperandrogenism or biochemical hyperandrogenism
- Sonographic evidence of at least one polycystic ovary.

The syndrome has strong association to:
- Obesity/overweight
- Android fat distribution
- Insulin resistance (IR) (independent of bodyweight)
- Impaired glucose tolerance
- Dyslipidaemia

PCOS has strong association to:
- Type 2 diabetes and CVD including endothelial dysfunction, vascular low–grade inflammation, and thrombosis, based on a simple clinical and paraclinical algorithm.
- Assessment of correlation between risk biomarkers and the individual elements of the definition of PCOS.
- To optimize the clinical risk estimation for diabetes and CVD including endothelial dysfunction, vascular low–grade inflammation, and thrombosis, based on a simple clinical and paraclinical algorithm.

HYPOTHESIS
Women with PCOS are characterized by 4 main phenotypes and each phenotype has different risk profile with regard to diabetes, thrombosis and cardiovascular morbidity.

OBJECTIVES
1. Define clusters of biomarkers characterizing the 4 phenotypes.
2. To establish a PCOS database and bio bank based on a large well-defined and well-characterized population (Figure 2).

STUDY DESIGN
Multi center cross-sectional clinical study

METHODS
- High-resolution and bio bank will be established with blood and urine samples from premenopausal 18-40 year old women with PCOS. Patients will be recruited from 4 Copenhagen University Hospitals (Figure 2). Controls are required in the two of the three PICGO projects, project 2 and 3.
- The patients will be screened for metabolic and haemostatic derelivation. DEXA scan and Oral glucose tolerance test (OGTT) will be performed (Figure 2 + Table 1).

RESULTS
Data are being compiled from April 2010 - December 2011 and results will be published from 2012.

CONCLUSION/PERSPECTIVES
- Development of precise clinical and paraclinical algorithm will enable better diagnostic, counseling and appropriate treatment of the women with PCOS.
- Haemostatological could potentially be used as indicators of risk of atherosclerotic and thrombotic disease in women with PCOS.