Conclusion:

1. Our study showed that genetic polymorphism in 11-B-HSD1 was significantly associated with PCOS with an odds ratio of 6.18 and genetic polymorphism in CYP11A was associated with PCOS with an odds ratio of 1.52 in cases attending a tertiary care clinic in Mangalore, a coastal city in Karnataka, South India and these genetic polymorphisms were most probably transmitted as autosomal dominant pattern on study of samples from first and second degree relatives of cases.

2. Metabolic syndrome characteristics were highly prevalent among relatives of PCOS cases and PCOS cases as well and these characteristics also appeared to be inherited as autosomal dominant disorders.

3. PCOS can be considered as metabolic syndrome equivalent.

4. PCOS was associated with features such as Buffalo Hump, moon face or cortisol excess in 61% of the cases which correlated well with 11 Beta HSD 1 gene polymorphism indicating that PCOS in our population may be Cushingoid equivalent due to visceral adiposity associated with the 11 beta HSD1 Polymorphism.

5. Insulin resistance features such as Acanthosis nigricans /IFG/IGT or diabetes mellitus occurred in a high proportion of PCOS cases which could be due to excess cortisol.

6. PCOS appears to be a Polyendocrinopathy but all the hormonal abnormalities appeared to relate to Cushing’s syndrome such as Insulin resistance, High TSH due to impaired conversion of T4 to T3 and hypothyroidism due to cortisol excess, Low FSH to negative feedback to pituitary hypothalamo adrenal axis due to high cortisol.
7. There was low FSH and high LH in our PCOS subjects which could be a hormonal marker for the condition.

8. We found a higher mean testosterone level.

9. Although mean insulin levels are normal compared to other studies high prevalence of diabetes reflecting insulin deficiency may have negated hyperinsulinemia.

10. Most of PCOS subjects were overweight and exhibited central obesity on Asian cutoff value confirming the Cushingoid body habitus of PCOS cases.

Limitations

1. Results of our study are generalizable only to the population of city of Mangalore.

2. Endocrine work up of the controls not done due to financial constraints.

3. History of concomitant conditions such as metabolic syndrome characteristics among 1st and second degree relatives may be limited since we have not investigated them for these characteristics and we were solely dependent on the history.