

2<sup>nd</sup> World Congress on

# Polycystic Ovarian Syndrome

October 05-07, 2016 Orlando, Florida, USA

## The characterization of obese polycystic ovary syndrome rat model suitable for exercise intervention

**Chuyan Wu**

Nanjing Medical University, China

Thirty six rats were randomly divided into 3 experimental groups: PCOS rats with high-fat diet (PF, n=24), PCOS rats with ordinary diet (PO, n=6), and control rats with ordinary diet (CO, n=6). Two kinds of PCOS rat model were made by adjustment diet structure and testosterone injection for 28 days. After a successful animal model, PF model rats were randomly assigned to 3 groups: Exercise with a continuation of high-fat diet (PF-EF, n=6), sedentary with a continuation of high-fat diet (PF-SF, n=6), exercise with an ordinary diet (PF-EO, n=6). After intervention for 14 days, body weight, Lee index, FINS increased significantly in PF rat model. Serum levels of E2 and T were significantly higher in PF and PO than in CO. Ovary organ index and ovarian areas were significant lower in PF than in CO. After intervention for 2 weeks, the levels of 1 h postprandial blood glucose (PBG1), 2 h postprandial blood glucose (PBG2), FINS and the serum levels of T decreased significantly in PF-EF rats and PF-EO rats. The ratio of FBG/FINS was significant higher in PF-EO rats than in PF-SF rats. Ovarian morphology showed that the numbers of preantral follicles and atretic follicles decreased significantly, and the numbers of antral follicles and corpora lutea increased significantly in the rats of PF-EF and PF-EO. Therefore, by combination of high-fat diet and testosterone injection, the obese PCOS rat model is conformable with the lifestyle habits of fatty foods and insufficient exercise, and has metabolic and reproductive characteristics of human PCOS. This model can be applied to study exercise intervention.

### Biography

Chuyan Wu has completed her Master's degree from Nanjing Medical University. She is currently studying for a Doctorate in Rehabilitation Medicine. She is the Doctor of Department of Rehabilitation Medicine, The First Affiliated Hospital of Nanjing Medical University and has published more than 10 papers in reputed journals.

chuyan\_w@hotmail.com

### Notes: