

# Evaluation of endothelial function in obese and non obese women with polycystic ovarian syndrome

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## Abstract

**Objectives:** To compare endothelial function by flow mediated dilatation (FMD) and carotid intima media thickness (CIMT) in women with polycystic ovarian syndrome (PCOS) and controls, and the determinants of endothelial function and its relationship with metabolic and endocrine parameters in PCOS. **Design:** Prospective study **Setting:** Department of Obstetrics & Gynaecology of a tertiary care hospital in Delhi. **Population:** Ninety women visiting the gynaecological OPD. **Methods:** A prospective study was conducted in a tertiary care setting in India from November 2010 to March 2012 on 90 women [PCOS: 30 obese – Group I, 30 non-obese – Group II and 30 non-obese non-PCOS controls – Group III]. Endothelial function by FMD of brachial artery and IMT of common carotid artery was evaluated by ultrasound. Metabolic, endocrine and anthropometric variables were compared and relationship with FMD and CIMT was calculated. **Main Outcome Measures:** Evaluation of endothelial function in obese and non-obese women with polycystic ovary syndrome. **Results:** A significant decreasing trend of FMD was found from controls to non-obese to obese PCOS women with a mean of 18.01%, 13.06% and 11.31% respectively. A non significant increasing trend of mean CIMT was found from normal control to non-obese and obese PCOS women with mean of 0.446 mm, 0.473 mm and 0.493 mm respectively. **Conclusions:** Women with PCOS have significant endothelial dysfunction at an early age suggesting that they may be at an increased risk for early onset cardiovascular disease and may gain particular benefit from preventive lifestyle interventions.

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