

## ABSTRACT

**Objective:** To describe the gynaecological ultrasound features of cohort of Sri Lankan women with polycystic ovary syndrome (PCOS).

**Design:** Case-control study.

**Setting:** Department of Obstetrics & Gynaecology, University of Colombo, Sri Lanka.

**Method:** Transabdominal or transvaginal ultrasound scans were carried out in the first week of the follicular phase of the menstrual cycle on 542 consecutive women attending the gynaecology endocrine clinic held twice weekly at the Professorial Unit, De Soysa Hospital for Women (DSHW). There were 337 diagnosed as PCOS by clinical and or biochemical features alone and 205 controls. The presence of polycystic ovaries (PCO) and PCOS were diagnosed based on international consensus definition (Rotterdam 2003). The sensitivity, specificity, positive and negative predictive values were then determined for differing ovarian volumes, numbers of follicles and sizes of the largest follicle required to detect polycystic ovaries (PCO), from which their diagnostic thresholds were calculated. The proportion of women having PCO among PCOS and control groups was also calculated.

**Results:** The highest sensitivity and specificity to detect polycystic ovaries in the cohort of Lankan women was observed as 6 cm<sup>3</sup> for ovarian volume, 10 for number of follicles and 2mm to 9mm for size of follicles. Mean  $\pm$  (95<sup>th</sup> confidence intervals, CI) of endometrial thickness was 4.2mm  $\pm$  1.35 in women with PCOS and 2.3mm  $\pm$  0.84 in the control group. P value = 0.0001.

**Conclusion:** The cohort of clinic based Lankan women with PCOS have smaller ovaries than the recommended threshold for European women and the number of follicles required to diagnose PCO is 10 rather than 12 (as per European guidelines). Endometrial thickness (ET) in the first seven days of the menstrual cycle is significantly greater in PCOS women than ethnically matched controls.