

## **P45. 2D & 3D Trans-vaginal sonography to determine cut offs for ovarian volume and follicle number per ovary for the diagnosis of Polycystic ovary syndrome in Indian women.**

*S Kar (IN) [1]*

**Context:** AE-PCOS society suggested updating the ultrasound criteria for polycystic ovarian morphology, increasing the cutoff for follicle number per ovary to >25. Published literature from other Asian countries suggests different diagnostic cutoffs.

**Objective:** To determine cut off values for ovarian volume (OV) and follicle number per ovary (FNPO) in Indian women with polycystic ovary syndrome (PCOS) women.

**Patients:** Eighty six PCOS women (Rotterdam criteria) and forty five age and BMI matched ovulatory and normo androgenic women were recruited.

**Methods:** A detailed 2D and 3D trans-vaginal scan was carried out in early follicular phase (D2-D5) in all patients. Ovarian volume, follicle number per ovary, Stromal volume, vascularization Index (VI), vascularization flow index (VFI) and flow Index (FI) was measured, in PCOS and controls.

**Results:** Mean OV was  $13.7 \pm 5.89$  and  $5.06 \pm 2.44$  ( $P < 0.0001$ ), FNPO was  $19.18 \pm 6.89$  and  $7.13 \pm 3.51$  ( $P < 0.0001$ ) in PCOS and controls respectively. The cut offs for the diagnosis of PCOS were: 2D OV  $6.15 \text{ cm}^3$ , 2D FNPO 12, 3D OV  $7 \text{ cm}^3$ , 3D FNPO 10, 3D stromal volume  $6 \text{ cm}^3$ , VI 4.546, VFI 2.925 and FI 19.266. Youden's Index (to select optimal predicted probability cut off) was highest for 2D FNPO (0.88786). 2D FNPO showed highest specificity and sensitivity (AUC), 0.95238 & 0.93548, for the diagnostic accuracy of PCOS.

**Conclusion:** 2D and 3D trans-vaginal scans are equally accurate for assessment of ovarian morphology. FNPO has better diagnostic accuracy for PCOS compared to ovarian volume. Cut off for FNPO and OV in Indian PCOS women is 12 and  $6.15 \text{ cm}^3$  by 2D, 10 and  $7 \text{ cm}^3$  by 3D trans-vaginal scan, which is much lower compared to suggested cut offs for caucasian women.

[1] Kar Clinic & Hospital Pvt Ltd.