The new AEPCOS Publication Committee chaired by Kathleen Hoeger (Rochester, USA) and formed also by Franca Frizzetti (Pisa, Italy) and Carlos Moran (Mexico City, Mexico) has prepared the new AEPCOS Quarterly Publication list. The publication list restarts from January-March 2014 papers and will be published regularly at the end of the following month (next issue at the end of July 2014).

As in past, the published papers have been grouped according their main focus. In addition, the Committee has selected three papers from this list that seemed particularly interesting and worthy to be commented.
HIGHLIGHTED PAPERS


There is some controversy over the risk of cancer with a diagnosis of PCOS. This study attempts to quantify cancer risk, specifically ovarian, endometrial and breast cancer, in women with PCOS compared to controls. They also separately quantified the risk in women who were premenopausal and by age. The authors completed a systematic review and meta-analysis. They found that women with PCOS were at a significantly increased risk for endometrial cancer with an odds ratio (OR) of 2.79, 95% confidence interval (CI) of 1.31-5.95, p<0.008. However in the general pool of studies there was no increased risk of either breast or ovarian cancer seen (OR 1.41, 95%CI 0.93-2.15; OR 0.95, 95%CI 0.64-1.39). The authors then analysed the studies including only women under the age of 54. The risk of endometrial cancer increased in PCOS women to OR4.05, 95%CI 2.42-6.76, p<00001; and became significantly increased for ovarian cancer, OR 2.52, 95%CI 1.08-5.89, p<0.03. Breast cancer in both analyses was not significantly increased. These data suggest that women with PCOS are at increased risk for endometrial cancer at younger ages, as well as overall, and may be more at risk for ovarian cancer at younger ages but not overall. The available data however are not robust and include several varying diagnoses of PCOS. In addition there are difficulties with confounders, such as obesity, that may result in biases in the studies which may exaggerate the increased risk. Overall the general risk of gynecologic cancers is relatively low, particularly in younger ages so absolute risk remains low (KH).

The topic of this study is important to analyze in view of the fact that more than 50% of polycystic ovary syndrome (PCOS) patients are overweight or obese. Given the high prevalence of obesity in PCOS, the hypothesis is that PCOS and obesity may share a similar genetic background.

Some studies reported that the fat mass and obese (FTO) gene is associated with PCOS risk, while others did not show any significant association.

The present study deals with the relationship between the polymorphism of FTO gene and the risk to present PCOS. The FTO gene is located in 16q12.2 chromosome and it is expressed in adipose tissue, brain and muscles. The FTO gene is associated with body mass index (BMI) and obesity. The authors performed a meta-analysis taking into account the literature published in different databases. Only five studies (4778 cases and 4272 controls) were included from 38 selected initially.

The results found that the FTO gene polymorphism was only marginally associated with PCOS risk after adjusting for BMI; however, it was not stable since in the analysis of ethnicity the association was significant in East Asians but not in Caucasians. One important limitation is that underlying genetics may be different in the different phenotypes of PCOS. The reported studies did not provide data concerning different phenotypes of PCOS.

The conclusion of the meta-analysis is that the FTO gene polymorphism is not associated with PCOS risk after adjustment for BMI in all populations. However, in the East Asian population there is an association with PCOS risk independent of BMI. So, the controversy about this topic continues. (CM)

The significance of ovarian morphology to PCOS diagnosis continued to be matter of debate. The diagnostic criteria proposed by the American Society of Reproductive Medicine and European Society of Human Reproduction and Embryology in 2003, as well as by the Androgen Excess and PCOS Society in 2006, included the quantitative measures of follicle number per ovary (FNPO) and ovarian volume (OV) as diagnostic criteria for PCOS. Increased FNPO and OV continue to be favored vs. other morphological characteristics of PCO (for example the measurement of the stromal-to-total area ratio (S:A) as proposed by Fulghesu and colleagues ). Multiple reports have indicated that the threshold for FNPO supported by the ASRM/ESHRE Rotterdam consensus (≥12 follicles) has contributed to an increased prevalence of PCO among healthy women of reproductive age. In addition, significant intra-observer and inter-observer variability exists when counting follicles throughout the entire ovary. Another critical point is that there is also no uniform consensus on whether follicles should be counted throughout the entire ovary or in a single cross-sectional view of the ovary. In this study the authors compare, in 82 women with PCOS and in 60 healthy female volunteers, the diagnostic potential of ultrasonographic markers of ovarian morphology, used alone or in combination, to predict PCOS. The ultrasonographic markers considered were: FNPO, OV, follicle number per single cross-section (FNPS), follicle distribution pattern, stromal area, ovarian area, S:A, and stromal index (SI). The Authors observed that FNPO best predicted PCOS ($R^2 = 67\%$) with 85% sensitivity and 98% specificity, followed by OV ($R^2 = 44\%$), and FNPS ($R^2 = 36\%$). Neither S:A nor SI had predictive power for PCOS. In combination, FNPO+S:A and FNPO+SI most significantly predicted PCOS ($R^2 = 74\%$ vs. 73%, respectively). The diagnostic potentials of OV and FNPS were substantially improved when used in combination (OV+FNPO, $R^2 = 55\%$). On the basis of the above results the Authors concluded that FNPO best predicted PCOS. Although the addition of S:A or SI improved the predictive power of FNPO, gains were marginal, suggesting limited use in clinical practice. When image quality precludes a reliable estimation of FNPO, measurements of OV+FNPS provide the next closest level of diagnostic potential (FF).
CONGENITAL ADRENAL HYPERPLASIA/STEROIDOGENESIS


- Falhammar H. Non-functioning adrenal incidentalomas caused by 21-hydroxylase deficiency or carrier status? Endocrine. 2014 Jan 23.


PCOS: ADOLESCENCE


• Shayeb AG, Harrild K, Bhattacharya S. Birth weight and ovulatory dysfunction. BJOG. 2014 Feb;121(3):281-9.


PCOS: ENDOCRINE DISRUPTER


Kauai, falls along Na Pali Coast trail
PCOS: ETIOLOGY AND ANIMAL MODELS


PCOS: GENERAL HEALTH

• Berberoglu Z, Aktas A, Fidan Y, Yazici AC, Aral Y. Association of plasma GDF-9 or GDF-15 levels with bone parameters in polycystic ovary syndrome J Bone Miner Metab. 2014 Jan 16.

• Dokras A, Witchel SF. Are Young Adult Women with Polycystic Ovary Syndrome Slipping through the Healthcare Cracks? J Clin Endocrinol Metab. 2014 Feb 25


• Rodrigues AM, Martins LB, Franklin AM, Candido AL, Santos LC, Ferreira AV. Poor quality diet is associated with overweight status and obesity in patients with polycystic ovary syndrome. J Hum Nutr Diet. 2014 Jan 31.

• Roe A, Hillman J, Butts S, Smith M, Rader D, Playford M, Mehta NN, Dokras A. Decreased cholesterol efflux capacity and atherogenic lipid profile in young women with PCOS. J Clin Endocrinol Metab. 2014 Feb 10
PCOS: GENETICS


AEPCOS QUARTERLY
PUBLICATION LIST


Kauai, Waimea Canyon
PCOS: IMMUNOLOGY


PCOS: AFTER THE MENOPAUSE


PCOS: METABOLIC DYSFUNCTION/CARDIOVASCULAR DISEASE


- Androulakis II, Kandarakis E, Christakou C, Karachalios A, Marinakis E, Paterakis T, Diamanti-Kandarakis E. Visceral adiposity index (VAI) is related to the severity of anovulation and other clinical features in women with polycystic ovary syndrome. Clin Endocrinol (Oxf). 2014 Mar 7


• Bhatt S, Mutharasan P, Garcia OA, Jafari N, Legro RS, Dunai A, Urbanek M. The inflammatory gene pathway is not a major contributor to PCOS. J Clin Endocrinol Metab. 2014 Jan 1


González F, Sia CL, Bearson DM, Blair HE. Hyperandrogenism induces a proinflammatory TNFα response to glucose ingestion in a receptor-dependent fashion. J Clin Endocrinol Metab. 2014 Feb 10


Heimark D, McAllister J, Larner J. Decreased myo-inositol to chiro-inositol (M/C) ratios and increased M/C epimerase activity in PCOS theca cells demonstrate increased insulin sensitivity compared to controls. Endocr J. 2014;61(2):111-7.

Hillman JK, Johnson LN, Limaye M, Feldman RA, Sammel M, Dokras A. Black women with polycystic ovary syndrome (PCOS) have increased risk for metabolic syndrome and cardiovascular disease compared with white women without PCOS. Fertil Steril. 2014 Feb;101 (2):530-5.


• Kocer D, Bayram F, Diri H. The effects of metformin on endothelial dysfunction, lipid metabolism and oxidative stress in women with polycystic ovary syndrome. Gynecol Endocrinol. 2014 May;30(5):367-71.


• Merhi Z. Advanced glycation end products and their relevance in female reproduction. Hum Reprod. 2014 Jan;29(1):135-45


• Tock L, Carneiro G, Togeiro SM, Hachul H, Pereira AZ, Tufik S, Zanella MT. Obstructive sleep apnea predisposes to nonalcoholic fatty liver disease in patients with polycystic ovary syndrome. Endocr Pract. 2014 Mar 1;20(3):244-51.


• Tsouma I, Kouskouni E, Demeridou S, Boutsikou M, Hassiakos D, Chasiakou A, Hassiakou S, Baka S. Correlation of visfatin levels and lipoprotein lipid profiles in women with polycystic ovary syndrome undergoing ovarian stimulation. Gynecol Endocrinol. 2014 Feb 27. [Epub ahead of print]


PCOS: NEUROENDOCRINE DYSFUNCTION


PCOS: OVARY


PCOS: PHENOTYPIC VARIATION

Alebić MS, Bulum T, Stojanović N, Duvnjak L. Definition of insulin resistance using the homeostasis model assessment (HOMA-IR) in IVF patients diagnosed with polycystic ovary syndrome (PCOS) according to the Rotterdam criteria. Endocrine. 2014 Feb 13.


AEPCOS QUARTERLY PUBLICATION LIST


PCOS PSYCHOLOGY


Na Pali Coast, Kauai
PCOS INFERTILITY


Irani M, Minkoff H, Seifer DB, Merhi Z. Vitamin D Increases Serum Levels of the Soluble Receptor for Advanced Glycation End Products in Women with PCOS. J Clin Endocrinol Metab. 2014 Feb 27


• Shahin AY, Mohammed SA. Adding the phytoestrogen Cimicifugae Racemosae to clomiphene induction cycles with timed intercourse in polycystic ovary syndrome improves cycle outcomes and pregnancy rates - a randomized trial. Gynecol Endocrinol. 2014 Mar 5.


• Stridsklev S, Carlsten SM, Salvesen O, Clemens I, Vanky E. Mid-pregnancy Doppler ultrasound of the uterine artery in metformin vs. placebo treated PCOS women: a randomized trial. J Clin Endocrinol Metab. 2014 Jan 1
PCOS UTERUS


PCOS PREMATURE ADRENARCHE/PUBERTY