

# AEPCOS QUARTERLY PUBLICATION LIST

JANUARY—MARCH 2015

## Highlighted articles

*Alpañés M, Luque-Ramírez M, Martínez-García MA, Fernández-Durán E, Alvarez-Blasco F, Escobar-Morreale HF. Influence of adrenal hyperandrogenism on the clinical and metabolic phenotype of women with polycystic ovary syndrome. Fertil Steril. 2015 Mar;103(3):795-801.e2. doi: 10.1016/j.fertnstert.2014.12.105. Epub 2015 Jan 10. PMID: 25585504.*

## Commentary (CM):

The predominant source of androgen overproduction in PCOS patients is from ovaries more than from adrenals. However, high levels of DHEAS have been reported in 20-65% of PCOS patients, depending on the definition used, age, body mass index (BMI) and race. The authors question that conflicting results have been reported about the effect of adrenal hyperandrogenism (AH) on insulin resistance and hypercholesterolemia. They studied the possible impact of AH on cardiometabolic risk factors of PCOS patients by a cross-sectional study, including 298 patients with clinical and/or biochemical hyperandrogenism together with anovulatory dysfunction; ovarian morphology was not taken into account. Patients with related disorders and chronic diseases such as hypertension, diabetes or cardiovascular events before the enrolment were excluded from the study. AH was defined by the presence of high levels of DHEAS, using a cut-off value of the 95th percentile (9.1  $\mu\text{mol/L}$ ) of 147 healthy control women. Main outcome measures included anthropometry, blood pressure, 75 g oral glucose tolerance test, hormonal levels, lipid profile and C-reactive protein. The participants were classified in AH PCOS patients (n=55, nonobese 32 and obese 23) and non-AH PCOS patients (n=243, nonobese 146 and obese 97). There were no differences in BMI between AH PCOS and non-AH PCOS patients. AH PCOS patients presented higher total and free testosterone levels than non-AH PCOS patients. AH PCOS patients had higher insulin circulating levels and lower insulin sensitivity than non-AH PCOS patients. An inverse correlation between DHEAS levels and LDL cholesterol ( $\rho=0.16$ ,  $P<0.04$ ) was found. AH and obesity increased the prevalence of prehypertension and hypertension. In conclusion, the authors found that the presence of AH in PCOS patients is associated with reduced insulin sensitivity and increased blood pressure, but may have beneficial effect on the lipid profile. The frequency of AH (18%) found in this study is similar to that of other studies (22-25%); however, contrary to the same BMI between AH and non-AH PCOS patients observed in this study it was found that AH PCOS patients had lower BMI than non-AH PCOS patients (Fertil Steril 1999; 71: 671-4). This study does not agree with other studies that have found AH is inversely related to insulin

resistance (J Endocrinol Invest 2007; 30: 111-6; Fertil Steril 2009; 91: 1848-52), or without any relationship with insulin resistance (J Clin Endocrinol Metab 2015; 100: 942-50). So, the discussion on metabolic impact of AH in PCOS patients follows; maybe the great variability of the results in clinical and metabolic expression of AH PCOS patients has to do with other variables such as the race of patients.

*Moran LJ, March WA, Whitrow MJ, Giles LC, Davies MJ, Moore VM. Sleep disturbances in a community-based sample of women with polycystic ovary syndrome. Hum Reprod. 2015 Feb;30(2):466-72. doi: 10.1093/humrep/deu318. Epub 2014 Nov 28. PubMed PMID: 25432918.*

Commentary (KMH):

Women with PCOS have a number of known metabolic risks and there is some concern that sleep disorders may exacerbate insulin resistance in PCOS and contribute to the metabolic dysfunction, particularly type 2 diabetes risk. Women attending PCOS based clinics who have been studied, more frequently report sleep disturbances but it is not clear if these represent a more severe phenotype of PCOS. This study attempted to investigate a community-based sample of women with PCOS with respect to sleep disturbance and to assess whether there is a contribution from obesity, depression or other factors. The study assessed a cohort of women born between 1973-1975 in a large hospital in Adelaide, South Australia. They were able to trace 93% of the cohort or 2046 women. 974 agreed to participate (49%) and this included providing health information and an interview with a research nurse. 756 were able to be examined in person. After exclusions, the final sample included 724 women. Using the Rotterdam criteria 87 (12%) met the criteria for PCOS. In the PCOS cohort, depression was noted in one half (49.4%) of the respondents compared to 30.1% of non-PCOS women. BMI was significantly greater in the PCOS women (30.1 versus 25.4). They were also less likely to be living with a partner (54% versus 65.8%). With respect to the sleep profiles, women with PCOS reported worse sleep patterns; 35% reported difficulty falling asleep compared with 20% of non-PCOS and a higher proportion had nighttime waking with difficulty falling back asleep. Women with PCOS were 70% more likely to self-perceive as a poor sleeper but when adjusted for depression and BMI, this was no longer significant. However women with PCOS had twice the odds of reporting difficulty falling asleep even when controlling for BMI and depressive symptoms. This study, while it is questionnaire based, has important implications for understanding the possible role of PCOS in sleep disorders. While research has focussed on the presence of obstructive sleep apnea in women with PCOS, the majority of research has focussed on women presenting with a more severe phenotype. This is the first community based assessment of sleep disturbance in PCOS and demonstrates that sleep disturbances overall are increased in women with PCOS across the severity spectrum. While BMI had a minor role in sleep disturbance, depressive symptoms demonstrated a stronger mediating role. As noted, the investigators relied on questionnaires and could not provide polysomnography assessments. This limits the ability to assess the specifics of the sleep disorder but in this community based sample,

women with PCOS had twice the likelihood of reporting a sleep disturbance. Given the relationship with depressive symptoms and the possible impact on quality of life, these data raise important questions about the overall impact of a PCOS diagnosis. Based on these findings, assessing sleep quality is another important component in the care of women with PCOS.

*\*Publications were searched in pubmed with primary search criteria congenital adrenal hyperplasia, premature adrenarche or PCOS with secondary subcategory, inclusive of the quarter dates. Every attempt was made to include all papers in English in these categories but may not be an exhaustive list. If a related paper was published in this quarter and was inadvertently not included, please notify the publications committee so that we may include in the following quarterly review.*

## List of publications

### Congenital Adrenal Hyperplasia and Disorders of Steroidogenesis

Abbo O, Ferdynus C, Kalfa N, Huiart L, Sauvat F, Harper LH. Male infants with hypospadias and/or cryptorchidism show a lower 2D/4D digit ratio than normal boys. Arch Dis Child. 2015 Feb 16. pii: archdischild-2014-306454. doi: 10.1136/archdischild-2014-306454. [Epub ahead of print] PubMed PMID: 25688099.

Akyürek N, Atabek ME, Eklioğlu BS, Alp H. Ambulatory blood pressure and subclinical cardiovascular disease in patients with congenital adrenal hyperplasia: a preliminary report. J Clin Res Pediatr Endocrinol. 2015 Mar 5;7(1):13-8. doi: 10.4274/jcrpe.1658. PubMed PMID: 25800471.

Atta I, Laghari TM, Khan YN, Lone SW, Ibrahim M, Raza J. Precocious puberty in children. J Coll Physicians Surg Pak. 2015 Feb;25(2):124-8. doi: 10.2015/JCPSP.124128. PubMed PMID: 25703757.

Auchus RJ. Management considerations for the adult with congenital adrenal hyperplasia. Mol Cell Endocrinol. 2015 Jun 15;408:190-197. doi: 10.1016/j.mce.2015.01.039. Epub 2015 Jan 30. Review. PubMed PMID: 25643980.

Auron M, Raissouni N. Adrenal insufficiency. Pediatr Rev. 2015 Mar;36(3):92-102; quiz 103, 129. doi: 10.1542/pir.36-3-92. PubMed PMID: 25733761.

Baquedano MS, Ciaccio M, Marino R, Perez Garrido N, Ramirez P, Maceiras M, Turjanski A, Defelipe LA, Rivarola MA, Belgorosky A. A novel missense mutation in the HSD3B2 gene, underlying nonsalt-wasting congenital adrenal hyperplasia. New insight into the structure-function relationships of 3 $\beta$ -hydroxysteroid dehydrogenase type II. J Clin Endocrinol Metab. 2015 Jan;100(1):E191-6. doi:10.1210/jc.2014-2676. PubMed PMID: 25322271.

Barbaro M, Soardi FC, Östberg LJ, Persson B, de Mello MP, Wedell A, Lajic S. In vitro functional studies of rare CYP21A2 mutations and establishment of an activity gradient for nonclassic mutations improve phenotype predictions in

congenital adrenal hyperplasia. *Clin Endocrinol (Oxf)*. 2015 Jan;82(1):37-44. doi:10.1111/cen.12526. Epub 2014 Jul 7. PubMed PMID: 24953648.

Bomberg EM, Addo OY, Kyllö J, Gonzalez-Bolanos MT, Ltiel AM, Pittock S, Himes JH, Miller BS, Sarafoglou K. The relation of peripubertal and pubertal growth to final adult height in children with classic congenital adrenal hyperplasia. *J Pediatr*. 2015 Mar;166(3):743-50. doi: 10.1016/j.jpeds.2014.11.027. Epub 2014 Dec 31. PubMed PMID: 25557963.

Bouvattier C, Esterle L, Renoult-Pierre P, de la Perrière AB, Illouz F, Kerlan V, Pascal-Vigneron V, Drui D, Christin-Maitre S, Galland F, Brue T, Reznik Y, Schillo F, Pinsard D, Piguel X, Chabrier G, Decoudier B, Emy P, Tauveron I, Raffin-Sanson ML, Bertherat J, Kuhn JM, Caron P, Cartigny M, Chabre O, Dewailly D, Morel Y, Touraine P, Tardy-Guidollet V, Young J. Clinical outcome, hormonal status, gonadotrope axis and testicular function in 219 adult men born with classic 21-hydroxylase deficiency. A French national survey. *J Clin Endocrinol Metab*. 2015 Mar 30;jc20144124. [Epub ahead of print] PubMed PMID: 25822101.

Brett EM, Auchus RJ. Genetic forms of adrenal insufficiency. *Endocr Pract*. 2015 Apr 2;21(4):395-9. doi: 10.4158/EP14503.RA. Epub 2015 Feb 9. PubMed PMID: 25667374.

Browne WV, Hindmarsh PC, Pasterski V, Hughes IA, Acerini CL, Spencer D, Neufeld S, Hines M. Working memory performance is reduced in children with congenital adrenal hyperplasia. *Horm Behav*. 2015 Jan;67:83-8. doi: 10.1016/j.yhbeh.2014.11.014. Epub 2014 Dec 9. PubMed PMID: 25496755; PubMed Central PMCID: PMC4332548.

Cradic KW, Murphy SJ, Sikkink RA, Neuhauser C, Vasmatzis G, Grebe SK. Clinical validation of a haplotyping method with next-generation sequencing. *Clin Chem*. 2015 Feb;61(2):430-1. doi: 10.1373/clinchem.2014.228627. Epub 2014 Nov 11. PubMed PMID: 25388428.

de Groot MJ, Pijnenburg-Kleizen KJ, Thomas CM, Sweep FC, Stikkelbroeck NM, Otten BJ, Claahsen-van der Grinten HL. Salivary morning androstenedione and 17 $\alpha$ -OH progesterone levels in childhood and puberty in patients with classic congenital adrenal hyperplasia. *Clin Chem Lab Med*. 2015 Feb;53(3):461-8. doi: 10.1515/cclm-2014-0375. PubMed PMID: 25283138.

Delle Piane L, Rinaudo PF, Miller WL. 150 years of congenital adrenal hyperplasia: translation and commentary of De Crecchio's classic paper from 1865. *Endocrinology*. 2015 Apr;156(4):1210-7. doi: 10.1210/en.2014-1879. Epub 2015 Jan 30. PubMed PMID: 25635623.

El-Maouche D, Collier S, Prasad M, Reynolds JC, Merke DP. Cortical bone mineral density in patients with congenital adrenal hyperplasia due to 21-hydroxylase deficiency. *Clin Endocrinol (Oxf)*. 2015 Mar;82(3):330-7. doi: 10.1111/cen.12507. Epub 2014 Jun 28. PubMed PMID: 24862755; PubMed Central PMCID: PMC4242797.

Faurschou S, Mouritsen A, Johannsen TH, Hougaard DM, Cohen A, Duno M, Juul A, Main KM. Hormonal disturbances due to severe and mild forms of congenital adrenal hyperplasia are already detectable in neonatal life. *Acta Paediatr.* 2015 Feb;104(2):e57-62. doi: 10.1111/apa.12835. Epub 2014 Nov 17. PubMed PMID: 25346389.

González R, Ludwikowski BM. Gender Dysphoria in 46,XX Persons with Adrenogenital Syndrome Raised as Females: An Addendum. *Front Pediatr.* 2015 Jan 6;2:140. doi: 10.3389/fped.2014.00140. eCollection 2014. PubMed PMID: 25610825; PubMed Central PMCID: PMC4285136.

Goodarzi MO, Carmina E, Azziz R. DHEA, DHEAS and PCOS. *J Steroid Biochem Mol Biol.* 2015 Jan;145:213-25. doi: 10.1016/j.jsbmb.2014.06.003. Epub 2014 Jul 5. Review. PubMed PMID: 25008465.

Guenego A, Morel Y, Ionesco O, Mallet D, Priou-Guesdon M. A late 17 $\alpha$ -hydroxylase deficiency diagnosis that leads to the discovery of a new CYP17 gene mutation. *Ann Endocrinol (Paris).* 2015 Feb;76(1):71-4. doi: 10.1016/j.ando.2014.11.003. Epub 2015 Jan 19. PubMed PMID: 25613935.

Hampson E, Rovet JF. Spatial function in adolescents and young adults with congenital adrenal hyperplasia: clinical phenotype and implications for the androgen hypothesis. *Psychoneuroendocrinology.* 2015 Apr;54:60-70. doi: 10.1016/j.psyneuen.2015.01.022. Epub 2015 Feb 2. PubMed PMID: 25686803.

Heather NL, Seneviratne SN, Webster D, Derraik JG, Jefferies C, Carll J, Jiang Y, Cutfield WS, Hofman PL. Newborn screening for congenital adrenal hyperplasia in New Zealand, 1994-2013. *J Clin Endocrinol Metab.* 2015 Mar;100(3):1002-8. doi: 10.1210/jc.2014-3168. Epub 2014 Dec 12. PubMed PMID: 25494862.

Kawashima Y, Usui T, Fujimoto M, Miyahara N, Nishimura R, Hanaki K, Kanzaki S. A rare CYP 21 mutation (p.E431K) induced deactivation of CYP 21A2 and resulted in congenital adrenal hyperplasia. *Endocr J.* 2015;62(1):101-6. doi: 10.1507/endocrj.EJ14-0437. Epub 2014 Oct 15. PubMed PMID: 25319875.

Keskin M, Uğurlu AK, Savaş-Erdeve Ş, Sağsak E, Akyüz SG, Çetinkaya S, Aycan Z. 17 $\alpha$ -Hydroxylase/17,20-lyase deficiency related to P.Y27\*(c.81C>A) mutation in CYP17A1 gene. *J Pediatr Endocrinol Metab.* 2015 Feb 23. pii: /j/jpem.ahead-of-print/jpem-2014-0444/jpem-2014-0444.xml. doi: 10.1515/jpem-2014-0444. [Epub ahead of print] PubMed PMID: 25719302.

Khan KM, Gonzalez-Bolanos MT, Holm T, Miller BS, Sarafoglou K. Use of Automated Bone Age for Critical Growth Assessment. *Clin Pediatr (Phila).* 2015 Feb 10. pii: 0009922815572076. [Epub ahead of print] PubMed PMID: 25669921.

Krone N, Webb EA, Hindmarsh PC. Keeping the pressure on mineralocorticoid

replacement in congenital adrenal hyperplasia. *Clin Endocrinol (Oxf)*. 2015 Apr;82(4):478-80. doi: 10.1111/cen.12700. Epub 2015 Feb 20. PubMed PMID: 25510524.

Kırmızıbekmez H, Yesiltepe Mutlu RG, Moraliçoğlu S, Telliöğlü A, Cerrah Celayir A. Concurrence of Meningomyelocele and Salt-Wasting Congenital Adrenal Hyperplasia due to 21-Hydroxylase Deficiency. *Case Rep Pediatr*. 2015;2015:196374. doi: 10.1155/2015/196374. Epub 2015 Jan 19. PubMed PMID: 25685584; PubMed Central PMCID: PMC4313520.

Lin-Su K, Lekarev O, Poppas DP, Vogiatzi MG. Congenital adrenal hyperplasia patient perception of 'disorders of sex development' nomenclature. *Int J Pediatr Endocrinol*. 2015;2015(1):9. doi: 10.1186/s13633-015-0004-4. Epub 2015 Mar 16. PubMed PMID: 25780368; PubMed Central PMCID: PMC4360949.

Lottrup G, Nielsen JE, Skakkebak NE, Juul A, Rajpert-De Meyts E. Abundance of DLK1, differential expression of CYP11B1, CYP21A2 and MC2R, and lack of INSL3 distinguish testicular adrenal rest tumours from Leydig cell tumours. *Eur J Endocrinol*. 2015 Apr;172(4):491-9. doi: 10.1530/EJE-14-0810. Epub 2015 Jan 21. PubMed PMID: 25609776.

Macedo A Jr, Leal da Cruz M, Liguori R, Trivelato R, Ottoni SL, Oliveira DE, Souza GR, Ortiz V. Total urogenital mobilization by CAH: A step-by-step illustration of the technique. *J Pediatr Urol*. 2015 Feb;11(1):47-8. doi: 10.1016/j.jpuro.2014.08.014. Epub 2015 Feb 18. PubMed PMID: 25748526.

Mallappa A, Sinaii N, Kumar P, Whitaker MJ, Daley LA, Digweed D, Eckland DJ, Van Ryzin C, Nieman LK, Arlt W, Ross RJ, Merke DP. A phase 2 study of Chronocort, a modified-release formulation of hydrocortisone, in the treatment of adults with classic congenital adrenal hyperplasia. *J Clin Endocrinol Metab*. 2015 Mar;100(3):1137-45. doi: 10.1210/jc.2014-3809. Epub 2014 Dec 11. PubMed PMID: 25494662.

Marino R, Perez Garrido N, Costanzo M, Guercio G, Juanes M, Rocco C, Ramirez P, Warman DM, Ciaccio M, Pena G, Feyling JG, Miras M, Rivarola MA, Belgorosky A, Saraco N. Five new cases of 46,XX aromatase deficiency: clinical follow-up from birth to puberty, a novel mutation, and a founder effect. *J Clin Endocrinol Metab*. 2015 Feb;100(2):E301-7. doi: 10.1210/jc.2014-2967. Epub 2014 Nov 21. PubMed PMID: 25415177.

Marra AM, Improda N, Capalbo D, Salzano A, Arcopinto M, De Paulis A, Alessio M, Lenzi A, Isidori AM, Cittadini A, Salerno M. Cardiovascular abnormalities and impaired exercise performance in adolescents with congenital adrenal hyperplasia. *J Clin Endocrinol Metab*. 2015 Feb;100(2):644-52. doi: 10.1210/jc.2014-1805. Epub 2014 Nov 18. PubMed PMID: 25405496.

Mohamed S, El-Kholy S, Al-Juryyan N, Al-Nemri AM, Abu-Amero KK. A CYP21A2 gene mutation in patients with congenital adrenal hyperplasia. Molecular genetics report from Saudi Arabia. *Saudi Med J*. 2015 Jan;36(1):113-

6. doi: 10.15537/smj.2015.1.9697. PubMed PMID: 25630015; PubMed Central PMCID: PMC4362195.

Niranjan U, Natarajan A. Congenital adrenal hyperplasia in children - a survey on the current practice in the UK. *J Pediatr Endocrinol Metab.* 2015 Mar 7. pii: /j/jpem.ahead-of-print/jpem-2014-0362/jpem-2014-0362.xml. doi: 10.1515/jpem-2014-0362. [Epub ahead of print] PubMed PMID: 25781528.

Quinkler M, Miodini Nilsen R, Zopf K, Vents M, Øksnes M. Modified-release hydrocortisone decreases BMI and HbA1c in patients with primary and secondary adrenal insufficiency. *Eur J Endocrinol.* 2015 May;172(5):619-26. doi: 10.1530/EJE-14-1114. Epub 2015 Feb 5. PubMed PMID: 25656494.

Rajkanna J, Oyibo SO. Large testicular adrenal rest tumours in a patient with congenital adrenal hyperplasia. *Endocrinol Diabetes Metab Case Rep.* 2015;2015:140080. doi: 10.1530/EDM-14-0080. Epub 2015 Feb 1. PubMed PMID: 25755878; PubMed Central PMCID: PMC4315946.

Ray JA, Kushnir MM, Yost RA, Rockwood AL, Wayne Meikle A. Performance enhancement in the measurement of 5 endogenous steroids by LC-MS/MS combined with differential ion mobility spectrometry. *Clin Chim Acta.* 2015 Jan 1;438:330-6. doi: 10.1016/j.cca.2014.07.036. Epub 2014 Aug 9. PubMed PMID: 25110813.

Reisch N. Substitution therapy in adult patients with congenital adrenal hyperplasia. *Best Pract Res Clin Endocrinol Metab.* 2015 Jan;29(1):33-45. doi: 10.1016/j.beem.2014.11.002. Epub 2014 Nov 14. PubMed PMID: 25617171.

Sahakitrungruang T. Clinical and molecular review of atypical congenital adrenal hyperplasia. *Ann Pediatr Endocrinol Metab.* 2015 Mar;20(1):1-7. doi: 10.6065/apem.2015.20.1.1. Epub 2015 Mar 31. Review. PubMed PMID: 25883920; PubMed Central PMCID: PMC4397267.

Salter SJ, Cook P, Davies JH, Armston AE. Analysis of 17  $\alpha$ -hydroxyprogesterone in bloodspots by liquid chromatography tandem mass spectrometry. *Ann Clin Biochem.* 2015 Jan;52(Pt 1):126-34. doi: 10.1177/0004563214530676. Epub 2014 May 19. PubMed PMID: 24842631.

Sarafoglou K, Zimmerman CL, Gonzalez-Bolanos MT, Willis BA, Brundage R. Interrelationships among cortisol, 17-hydroxyprogesterone, and androstenedione exposures in the management of children with congenital adrenal hyperplasia. *J Investig Med.* 2015 Jan;63(1):35-41. doi: 10.1097/JIM.000000000000121. PubMed PMID: 25386671.

Smeets EE, Span PN, van Herwaarden AE, Wevers RA, Hermus AR, Sweep FC, Claahsen-van der Grinten HL. Molecular characterization of testicular adrenal rest tumors in congenital adrenal hyperplasia: lesions with both adrenocortical and Leydig cell features. *J Clin Endocrinol Metab.* 2015



Mar;100(3):E524-30. doi: 10.1210/jc.2014-2036. Epub 2014 Dec 8. PubMed PMID: 25485724.

Stoupa A, González-Briceño L, Pinto G, Samara-Boustani D, Thalassinos C, Flechtner I, Beltrand J, Bidet M, Simon A, Piketty M, Laborde K, Morel Y, Bellanné-Chantelot C, Touraine P, Polak M. Inadequate Cortisol Response to the Tetracosactide (Synacthen®) Test in Non-Classic Congenital Adrenal Hyperplasia: An Exception to the Rule? *Horm Res Paediatr.* 2015 Feb 7. [Epub ahead of print] PubMed PMID: 25677445.

Sturm RM, Durbin-Johnson B, Kurzrock EA. Congenital adrenal hyperplasia: current surgical management at academic medical centers in the United States. *J Urol.* 2015 May;193(5 Suppl):1796-801. doi: 10.1016/j.juro.2014.11.008. Epub 2015 Mar 25. PubMed PMID: 25817160.

Turkkahraman D, Guran T, Ivison H, Griffin A, Vijzelaar R, Krone N. Identification of a novel large CYP17A1 deletion by MLPA analysis in a family with classic 17 $\alpha$ -hydroxylase deficiency. *Sex Dev.* 2015;9(2):91-7. PubMed PMID:25765894.

Utriainen P, Laakso S, Liimatta J, Jääskeläinen J, Voutilainen R. Premature Adrenarche - A Common Condition with Variable Presentation. *Horm Res Paediatr.*2015 Feb 7. [Epub ahead of print] PubMed PMID: 25676474.

Verma IC, Bijarnia-Mahay S, Jhingan G, Verma J. Newborn screening: need of the hour in India. *Indian J Pediatr.* 2015 Jan;82(1):61-70. doi: 10.1007/s12098-014-1615-0. Epub 2014 Dec 9. PubMed PMID: 25482213.

Voutilainen R, Jääskeläinen J. Premature adrenarche: etiology, clinical findings, and consequences. *J Steroid Biochem Mol Biol.* 2015 Jan;145:226-36. doi:10.1016/j.jsbmb.2014.06.004. Epub 2014 Jun 9. Review. PubMed PMID: 24923732.

Wang S, Yang L, Li J, Mu Y. Concurrent insulinoma with mosaic Turner syndrome: A case report. *Exp Ther Med.* 2015 Mar;9(3):801-804. Epub 2015 Jan 5. PubMed PMID: 25667631; PubMed Central PMCID: PMC4316865.

Watson S, Greene A, Lewis K, Eugster E. Bird's-Eye View of GnRH Analog Use in a Pediatric Endocrinology Referral Center. *Endocr Pract.* 2015 Feb 9:1-15. [Epub ahead of print] PubMed PMID: 25667370.

Wieacker I, Peter M, Borucki K, Empting S, Roehl FW, Mohnike K. Therapy monitoring in congenital adrenal hyperplasia by dried blood samples. *J Pediatr Endocrinol Metab.* 2015 Mar 7. pii:/j/jpem.ahead-of-print/jpem-2014-0303/jpem-2014-0303.xml. doi:10.1515/jpem-2014-0303. [Epub ahead of print] PubMed PMID: 25781526.

Zhang M, Sun S, Liu Y, Zhang H, Jiao Y, Wang W, Li X. New, recurrent, and prevalent mutations: Clinical and molecular characterization of 26 Chinese

patients with 17alpha-hydroxylase/17,20-lyase deficiency. *J Steroid Biochem Mol Biol.* 2015 Jun;150:11-6. doi: 10.1016/j.jsbmb.2015.02.007. Epub 2015 Feb 16. PubMed PMID: 25697092.

Öcal G, Berberoğlu M, Sıklar Z, Aycan Z, Hacıhamdioglu B, Erdeve ŞS, Çamtosun E, Kocaay P, Ruhi Hİ, Kılıç BG, Tukun A. Clinical review of 95 patients with 46,XX disorders of sex development based on the new Chicago classification. *JPediatr Adolesc Gynecol.* 2015 Feb;28(1):6-11. doi: 10.1016/j.jpag.2014.01.106. Epub 2014 Nov 12. PubMed PMID: 25444050.

Øksnes M, Ross R, Løvås K. Optimal glucocorticoid replacement in adrenal insufficiency. *Best Pract Res Clin Endocrinol Metab.* 2015 Jan;29(1):3-15. doi: 10.1016/j.beem.2014.09.009. Epub 2014 Oct 7. PubMed PMID: 25617168.

### **PCOS-Adolescence**

Akın L, Kendirci M, Narin F, Kurtoglu S, Saraymen R, Kondolot M, Koçak S, Elmali F. The endocrine disruptor bisphenol A may play a role in the aetiopathogenesis of polycystic ovary syndrome in adolescent girls. *Acta Paediatr.* 2015 Apr;104(4):e171-7. doi: 10.1111/apa.12885. Epub 2015 Feb 3. PubMed PMID: 25469562.

Al-Zubeidi H, Klein KO. Randomized clinical trial evaluating metformin versus oral contraceptive pills in the treatment of adolescents with polycystic ovarian syndrome. *J Pediatr Endocrinol Metab.* 2015 Mar 7. pii: /j/jpem.ahead-of-print/jpem-2014-0283/jpem-2014-0283.xml. doi: 10.1515/jpem-2014-0283. [Epub ahead of print] PubMed PMID: 25781525.

Amato MC, Magistro A, Gambino G, Vesco R, Giordano C. Visceral adiposity index and DHEAS are useful markers of diabetes risk in women with polycystic ovary syndrome. *Eur J Endocrinol.* 2015 Jan;172(1):79-88. doi: 10.1530/EJE-14-0600. Epub 2014 Oct 23. PubMed PMID: 25342852.

Balaji S, Amadi C, Prasad S, Bala Kasav J, Upadhyay V, Singh AK, Surapaneni KM, Joshi A. Urban rural comparisons of polycystic ovary syndrome burden among adolescent girls in a hospital setting in India. *Biomed Res Int.* 2015;2015:158951. doi: 10.1155/2015/158951. Epub 2015 Jan 5. PubMed PMID: 25629036; PubMed Central PMCID: PMC4299689.

Beltadze K, Barbakadze L. Diagnostic features of polycystic ovary syndrome in adolescents (review). *Georgian Med News.* 2015 Jan;(238):32-4. PubMed PMID: 25693210.

Beltadze K, Barbakadze L. Ovarian reserve in the women of late reproductive age after conservative treatment of polycystic ovary syndrome in adolescence. *Georgian Med News.* 2015 Jan;(238):27-31. PubMed PMID: 25693209.

Carreau AM, Baillargeon JP. PCOS in adolescence and type 2 diabetes. *Curr Diab Rep.* 2015 Jan;15(1):564. doi: 10.1007/s11892-014-0564-3. PubMed PMID: 25398203.

Glueck CJ, Woo JG, Khoury PR, Morrison JA, Daniels SR, Wang P. Adolescent oligomenorrhea (age 14-19) tracks into the third decade of life (age 20-28) and predicts increased cardiovascular risk factors and metabolic syndrome. *Metabolism.* 2015 Apr;64(4):539-53. doi: 10.1016/j.metabol.2015.01.005. Epub 2015 Jan 10. PubMed PMID: 25633270.

Gottschau M, Kjaer SK, Jensen A, Munk C, Mellekjær L. Risk of cancer among women with polycystic ovary syndrome: a Danish cohort study. *Gynecol Oncol.* 2015 Jan;136(1):99-103. doi: 10.1016/j.ygyno.2014.11.012. Epub 2014 Nov 20. PubMed PMID: 25451694.

Guidi J, Gambineri A, Zanotti L, Fanelli F, Fava GA, Pasquali R. Psychological aspects of hyperandrogenic states in late adolescent and young women. *Clin Endocrinol (Oxf).* 2015 Mar 30. doi: 10.1111/cen.12783. [Epub ahead of print] PubMed PMID: 25823959.

Hart R, Doherty DA. The potential implications of a PCOS diagnosis on a woman's long-term health using data linkage. *J Clin Endocrinol Metab.* 2015 Mar;100(3):911-9. doi: 10.1210/jc.2014-3886. Epub 2014 Dec 22. PubMed PMID:25532045.

Kamangar F, Okhovat JP, Schmidt T, Beshay A, Pasch L, Cedars MI, Huddleston H, Shinkai K. Polycystic Ovary Syndrome: Special Diagnostic and Therapeutic Considerations for Children. *Pediatr Dermatol.* 2015 Mar 19. doi: 10.1111/pde.12566. [Epub ahead of print] PubMed PMID: 25787290.

Münzker J, Hofer D, Trummer C, Ulbing M, Harger A, Pieber T, Owen L, Keevil B, Brabant G, Lerchbaum E, Obermayer-Pietsch B. Testosterone to dihydrotestosterone ratio as a new biomarker for an adverse metabolic phenotype in the polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2015 Feb;100(2):653-60. doi: 10.1210/jc.2014-2523. Epub 2014 Nov 11. PubMed PMID:25387259.

Pasquali R. Metformin in women with PCOS, pros. *Endocrine.* 2015 Mar;48(2):422-6. doi: 10.1007/s12020-014-0311-1. Epub 2014 Jun 10. Erratum in:*Endocrine.* 2015 Mar;48(2):427. Renato, Pasquali [corrected to Pasquali, Renato]. PubMed PMID: 24913417.

Pedroso DC, Miranda-Furtado CL, Kogure GS, Meola J, Okuka M, Silva C, Calado RT, Ferriani RA, Keefe DL, dos Reis RM. Inflammatory biomarkers and telomere length in women with polycystic ovary syndrome. *Fertil Steril.* 2015 Feb;103(2):542-7.e2. doi: 10.1016/j.fertnstert.2014.10.035. Epub 2014 Nov 20. PubMed PMID: 25467041.

Powers SE, Uliassi NW, Sullivan SD, Tuchman LK, Mehra R, Gomez-Lobo V. Trends in standard workup performed by pediatric subspecialists for the

diagnosis of adolescent polycystic ovary syndrome. *J Pediatr Adolesc Gynecol*. 2015 Feb;28(1):43-6. doi: 10.1016/j.jpag.2014.03.002. Epub 2014 Mar 15. PubMed PMID: 25555300.

Rosenfield RL, Ehrmann DA, Littlejohn EE. Adolescent polycystic ovary syndrome due to functional ovarian hyperandrogenism persists into adulthood. *J Clin Endocrinol Metab*. 2015 Apr;100(4):1537-43. doi: 10.1210/jc.2014-4290. Epub 2015 Feb 12. PubMed PMID: 25675386; PubMed Central PMCID: PMC4399308.

Vitek W, Alur S, Hoeger KM. Off-label drug use in the treatment of polycystic ovary syndrome. *Fertil Steril*. 2015 Mar;103(3):605-11. doi: 10.1016/j.fertnstert.2015.01.019. Review. PubMed PMID: 25726702.

Voutilainen R, Jääskeläinen J. Premature adrenarche: etiology, clinical findings, and consequences. *J Steroid Biochem Mol Biol*. 2015 Jan;145:226-36. doi:10.1016/j.jsbmb.2014.06.004. Epub 2014 Jun 9. Review. PubMed PMID: 24923732.

### **PCOS-Dermatology**

Hong JS, Kwon HH, Park SY, Jung JY, Yoon JY, Min S, Choi YM, Suh DH. Cutaneous manifestations of the subtypes of polycystic ovary syndrome in Korean patients. *J Eur Acad Dermatol Venereol*. 2015 Jan;29(1):42-7. doi: 10.1111/jdv.12432. Epub 2014 Mar 14. PubMed PMID: 24628922.

Kamangar F, Okhovat JP, Schmidt T, Beshay A, Pasch L, Cedars MI, Huddleston H, Shinkai K. Polycystic Ovary Syndrome: Special Diagnostic and Therapeutic Considerations for Children. *Pediatr Dermatol*. 2015 Mar 19. doi: 10.1111/pde.12566. [Epub ahead of print] PubMed PMID: 25787290.

Khomami MB, Tehrani FR, Hashemi S, Farahmand M, Azizi F. Of PCOS Symptoms, Hirsutism Has the Most Significant Impact on the Quality of Life of Iranian Women. *PLoS One*. 2015 Apr 15;10(4):e0123608. doi: 10.1371/journal.pone.0123608. eCollection 2015. PubMed PMID: 25874409; PubMed Central PMCID: PMC4398498.

### **PCOS-Endocrine Disruptors**

Akın L, Kendirci M, Narin F, Kurtoglu S, Saraymen R, Kondolot M, Koçak S, Elmali F. The endocrine disruptor bisphenol A may play a role in the aetiopathogenesis of polycystic ovary syndrome in adolescent girls. *Acta Paediatr*. 2015 Apr;104(4):e171-7. doi: 10.1111/apa.12885. Epub 2015 Feb 3. PubMed PMID: 25469562.

### **PCOS-Animal models**

Arif M, Thakur SC, Datta K. Disrupted hyaluronan binding protein 1 (HABP1) expression: one of the key mediator for ovarian dysfunction in polycystic ovary rat. *Mol Cell Biochem*. 2015 Jan;398(1-2):233-44. doi: 10.1007/s11010-014-

2224-y.

Epub 2014 Oct 10. PubMed PMID: 25300617.

Chen H, Guo JH, Zhang XH, Chan HC. Defective CFTR-regulated granulosa cell proliferation in polycystic ovarian syndrome. *Reproduction*. 2015 May;149(5):393-401. doi: 10.1530/REP-14-0368. Epub 2015 Feb 2. PubMed PMID: 25646509.

Daneshian Z, Ramezani Tehrani F, Zarkesh M, Norooz Zadeh M, Mahdian R, Zadeh Vakili A. Antimullerian hormone and its receptor gene expression in prenatally androgenized female rats. *Int J Endocrinol Metab*. 2015 Jan 30;13(1):e19511. doi: 10.5812/ijem.19511. eCollection 2015 Jan. PubMed PMID: 25745494; PubMed Central PMCID: PMC4338645.

Di Pietro M, Parborell F, Irusta G, Pascuali N, Bas D, Bianchi MS, Tesone M, Abramovich D. Metformin regulates ovarian angiogenesis and follicular development in a female polycystic ovary syndrome rat model. *Endocrinology*. 2015 Apr;156(4):1453-63. doi: 10.1210/en.2014-1765. Epub 2015 Jan 15. PubMed PMID: 25590243.

Ergenoglu M, Yildirim N, Yildirim AG, Yeniel O, Erbas O, Yavasoglu A, Taskiran D, Karadadas N. Effects of Resveratrol on Ovarian Morphology, Plasma Anti-Mullerian Hormone, IGF-1 Levels, and Oxidative Stress Parameters in a Rat Model of Polycystic Ovary Syndrome. *Reprod Sci*. 2015 Feb 8. pii: 1933719115570900. [Epub ahead of print] PubMed PMID: 25667201.

Küpelı Akkol E, İlhan M, Ayşe Demirel M, Keleş H, Tümen I, Süntar İ. Thuja occidentalis L. and its active compound,  $\alpha$ -thujone: Promising effects in the treatment of polycystic ovary syndrome without inducing osteoporosis. *J Ethnopharmacol*. 2015 Mar 27. pii: S0378-8741(15)00173-7. doi: 10.1016/j.jep.2015.03.029. [Epub ahead of print] PubMed PMID: 25818694.

Maranon R, Lima R, Spradley FT, do Carmo JM, Zhang H, Smith AD, Bui E, Thomas RL, Moulana M, Hall JE, Granger JP, Reckelhoff JF. Roles for the sympathetic nervous system, renal nerves, and CNS melanocortin-4 receptor in the elevated blood pressure in hyperandrogenemic female rats. *Am J Physiol Regul Integr Comp Physiol*. 2015 Apr 15;308(8):R708-13. doi: 10.1152/ajpregu.00411.2014. Epub 2015 Feb 18. PubMed PMID: 25695289; PubMed Central PMCID: PMC4398855.

Moore AM, Prescott M, Marshall CJ, Yip SH, Campbell RE. Enhancement of a robust arcuate GABAergic input to gonadotropin-releasing hormone neurons in a model of polycystic ovarian syndrome. *Proc Natl Acad Sci U S A*. 2015 Jan 13;112(2):596-601. doi: 10.1073/pnas.1415038112. Epub 2014 Dec 30. PubMed PMID: 25550522; PubMed Central PMCID: PMC4299257.

Ni XR, Sun ZJ, Hu GH, Wang RH. High concentration of insulin promotes apoptosis of primary cultured rat ovarian granulosa cells via its increase in extracellular HMGB1. *Reprod Sci*. 2015 Mar;22(3):271-7. doi:

10.1177/1933719114549852. Epub 2014 Sep 16. PubMed PMID: 25228632.

Nikolić M, Macut D, Djordjevic A, Veličković N, Nestorović N, Bursać B, Antić IB, Macut JB, Matić G, Vojnović Milutinović D. Possible involvement of glucocorticoids in 5 $\alpha$ -dihydrotestosterone-induced PCOS-like metabolic disturbances in the rat visceral adipose tissue. *Mol Cell Endocrinol*. 2015 Jan 5;399:22-31. doi: 10.1016/j.mce.2014.08.013. Epub 2014 Aug 29. PubMed PMID: 25179821.

Ongaro L, Salvetti NR, Giovambattista A, Spinedi E, Ortega HH. Neonatal androgenization-induced early endocrine-metabolic and ovary misprogramming in the female rat. *Life Sci*. 2015 Jun 1;130:66-72. doi: 10.1016/j.lfs.2015.03.008. Epub 2015 Mar 26. PubMed PMID: 25818182.

Tepavčević S, Milutinović DV, Macut D, Stojilković M, Nikolić M, Božić-Antić I, Čulafić T, Bjekić-Macut J, Matić G, Korićanac G. Cardiac fatty acid uptake and metabolism in the rat model of polycystic ovary syndrome. *Endocrine*. 2015 Feb 22.[Epub ahead of print] PubMed PMID: 25702158.

Wang F, Zhang Z, Wang Z, Xiao K, Wang Q, Su J, Wang Z. Expression and clinical significance of the HIF-1 $\alpha$ /ET-2 signaling pathway during the development and treatment of polycystic ovary syndrome. *J Mol Histol*. 2015 Apr;46(2):173-81. doi: 10.1007/s10735-015-9609-4. Epub 2015 Jan 23. PubMed PMID: 25613530.

Xia Y, Shen S, Zhang X, Deng Z, Xiang Z, Wang H, Yi L, Gao Q, Wang Y. Epigenetic pattern changes in prenatal female Sprague-Dawley rats following exposure to androgen. *Reprod Fertil Dev*. 2015 Mar 31. doi: 10.1071/RD14292. [Epub ahead of print] PubMed PMID: 25823942.

### **PCOS-General Health**

Churchill SJ, Wang ET, Bhasin G, Alexander C, Bresee C, Pall M, Azziz R, Pisarska MD. Basal metabolic rate in women with PCOS compared to eumenorrheic controls. *Clin Endocrinol (Oxf)*. 2015 Feb 9. doi: 10.1111/cen.12740. [Epub ahead of print] PubMed PMID: 25660380.

Correa JB, Sperry SL, Darkes J. A case report demonstrating the efficacy of a comprehensive cognitive-behavioral therapy approach for treating anxiety, depression, and problematic eating in polycystic ovarian syndrome. *Arch Womens Ment Health*. 2015 Jan 28. [Epub ahead of print] PubMed PMID: 25627019.

de Kat AC, Broekmans FJ, Laven JS, van der Schouw YT. Anti-Müllerian Hormone as a marker of ovarian reserve in relation to cardio-metabolic health: a narrative review. *Maturitas*. 2015 Mar;80(3):251-7. doi: 10.1016/j.maturitas.2014.12.010. Epub 2015 Jan 10. Review. PubMed PMID: 25640611.

Duseja A, Singh SP, Saraswat VA, Acharya SK, Chawla YK, Chowdhury S, Dhiman RK, Jayakumar RV, Madan K, Misra SP, Mishra H, Modi SK, Muruganathan A, Saboo B, Sahay R, Upadhyay R. Non-alcoholic Fatty Liver Disease and Metabolic Syndrome-Position Paper of the Indian National Association for the Study of the Liver, Endocrine Society of India, Indian College of Cardiology and Indian Society of Gastroenterology. *J Clin Exp Hepatol*. 2015 Mar;5(1):51-68. doi:10.1016/j.jceh.2015.02.006. Epub 2015 Mar 6. Review. PubMed PMID: 25941433; PubMed Central PMCID: PMC4415196.

Gill SK. Cardiovascular Risk Factors and Disease in Women. *Med Clin North Am*. 2015 May;99(3):535-552. doi: 10.1016/j.mcna.2015.01.007. Epub 2015 Mar 6. Review. PubMed PMID: 25841599.

Glintborg D, Hass Rubin K, Nybo M, Abrahamsen B, Andersen M. Morbidity and medicine prescriptions in a nationwide Danish population of patients diagnosed with polycystic ovary syndrome. *Eur J Endocrinol*. 2015 May;172(5):627-38. doi: 10.1530/EJE-14-1108. Epub 2015 Feb 5. PubMed PMID: 25656495

Hashim ZH, Hamdan FB, Al-Salihi AR. Autonomic dysfunction in women with polycystic ovary syndrome. *Iran J Reprod Med*. 2015 Jan;13(1):27-34. PubMed PMID: 25653673; PubMed Central PMCID: PMC4306982.

Hart R, Doherty DA. The potential implications of a PCOS diagnosis on a woman's long-term health using data linkage. *J Clin Endocrinol Metab*. 2015 Mar;100(3):911-9. doi: 10.1210/jc.2014-3886. Epub 2014 Dec 22. PubMed PMID:25532045.

Kowalczyk R, Skrzypulec-Plinta V, Nowosielski K, Lew-Starowicz Z. Sexuality in women with polycystic ovary syndrome. *Ginekol Pol*. 2015 Feb;86(2):100-6. PubMed PMID: 25807833.

Legro R. Diagnosis and treatment of polycystic ovary syndrome (PCOS): an interview with Richard Legro. *BMC Med*. 2015 Mar 27;13:64. doi: 10.1186/s12916-015-0299-2. PubMed PMID: 25879641; PubMed Central PMCID:PMC4375836.

Leonhardt H, Hellström M, Gull B, Lind AK, Nilsson L, Janson PO, Stener-Victorin E. Serum anti-Müllerian hormone and ovarian morphology assessed by magnetic resonance imaging in response to acupuncture and exercise in women with polycystic ovary syndrome: secondary analyses of a randomized controlled trial. *Acta Obstet Gynecol Scand*. 2015 Mar;94(3):279-87. doi: 10.1111/aogs.12571. Epub 2015 Jan 28. PubMed PMID: 25545309.

Shen CC, Yang AC, Hung JH, Hu LY, Tsai SJ. A nationwide population-based retrospective cohort study of the risk of uterine, ovarian and breast cancer in women with polycystic ovary syndrome. *Oncologist*. 2015 Jan;20(1):45-9. doi:10.1634/theoncologist.2014-0311. Epub 2014 Nov 19.

PubMed PMID: 25410097; PubMed Central PMCID: PMC4294614.

Shoaei T, Heidari-Beni M, Tehrani HG, Feizi A, Esmailzadeh A, Askari G. Effects of Probiotic Supplementation on Pancreatic  $\beta$ -cell Function and C-reactive Protein in Women with Polycystic Ovary Syndrome: A Randomized Double-blind Placebo-controlled Clinical Trial. *Int J Prev Med*. 2015 Mar 24;6:27. doi:10.4103/2008-7802.153866. eCollection 2015. PubMed PMID: 25949777; PubMed Central PMCID: PMC4387688.

Trikudanathan S. Polycystic ovarian syndrome. *Med Clin North Am*. 2015 Jan;99(1):221-35. doi: 10.1016/j.mcna.2014.09.003. Epub 2014 Nov 22. Review. PubMed PMID: 25456652.

Turner-McGrievy G, Davidson CR, Billings DL. Dietary intake, eating behaviors, and quality of life in women with polycystic ovary syndrome who are trying to conceive. *Hum Fertil (Camb)*. 2015 Mar;18(1):16-21. doi: 10.3109/14647273.2014.922704. Epub 2014 Jun 12. PubMed PMID: 24921163.

## **PCOS – Genetics**

Cui L, Li G, Zhong W, Bian Y, Su S, Sheng Y, Shi Y, Wei D, Zhang W, Zhao H, Chen ZJ. Polycystic ovary syndrome susceptibility single nucleotide polymorphisms in women with a single PCOS clinical feature. *Hum Reprod*. 2015 Mar;30(3):732-6. doi: 10.1093/humrep/deu361. Epub 2015 Jan 12. PMID: 25586784.

Feng C, Lv PP, Yu TT, Jin M, Shen JM, Wang X, Zhou F, Jiang SW. The association between polymorphism of INSR and polycystic ovary syndrome: a meta-analysis. *Int J Mol Sci*. 2015 Jan 22;16(2):2403-25. doi: 10.3390/ijms16022403. PMID: 25622255.

Goodarzi MO, Carmina E, Azziz R. DHEA, DHEAS and PCOS. *J Steroid Biochem Mol Biol*. 2015 Jan;145:213-25. doi: 10.1016/j.jsbmb.2014.06.003. Epub 2014 Jul 5. Review. PMID: 25008465.

Guo R, Zheng Y, Yang J, Zheng N. Association of TNF-alpha, IL-6 and IL-1beta gene polymorphisms with polycystic ovary syndrome: a meta-analysis. *BMC Genet*. 2015 Jan 30;16(1):5. doi: 10.1186/s12863-015-0165-4. PMID: 25634659.

Jędrzejuk D, Laczmański L, Kuliczowska J, Lenarcik A, Trzmiel-Bira A, Hirnle L, Dorobisz U, Milewicz A, Lwow F, Urbanowych A, Słoka N. Selected CNR1 polymorphisms and hyperandrogenemia as well as fat mass and fat distribution in women with polycystic ovary syndrome. *Gynecol Endocrinol*. 2015 Jan;31(1):36-9. doi: 10.3109/09513590.2014.946899. Epub 2014 Aug 5. PMID: 25093427.



Ju R, Wu W, Fei J, Qin Y, Tang Q, Wu D, Xia Y, Wu J, Wang X. Association analysis between the polymorphisms of HSD17B5 and HSD17B6 and risk of polycystic ovary syndrome in Chinese population. *Eur J Endocrinol*. 2015 Mar;172(3):227-33. doi: 10.1530/EJE-14-0615. Epub 2014 Nov 24. PMID: 25422294.

Lee H, Oh JY, Sung YA, Chung H, Kim HL, Kim GS, Cho YS, Kim JT. Genome-wide association study identified new susceptibility loci for polycystic ovary syndrome. *Hum Reprod*. 2015 Mar;30(3):723-31. doi: 10.1093/humrep/deu352. Epub 2015 Jan 8. PMID: 25574032.

Li L, Yun JH, Ryoo JE, Lee KJ, Choi BC, Baek KH. 54G/C polymorphism of SREBF-1 gene is associated with polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol*. 2015 Mar 9;188:95-99. doi: 10.1016/j.ejogrb.2015.03.002. PMID: 25801724.

Liaqat I, Jahan N, Krikun G, Taylor HS. Genetic polymorphisms in pakistani women with polycystic ovary syndrome. *Reprod Sci*. 2015 Mar;22(3):347-57. doi: 10.1177/1933719114542015. Epub 2014 Aug 6. PMID: 25100445.

Lin L, Du T, Huang J, Huang LL, Yang DZ. Identification of differentially expressed microRNAs in the ovary of polycystic ovary syndrome with hyperandrogenism and insulin resistance. *Chin Med J (Engl)*. 2015 Jan 20;128(2):169-74. doi: 10.4103/0366-6999.149189. PMID: 25591557.

Lin XH, Liu ME, Xu HY, Chen XJ, Wang H, Tian S, Sheng JZ, Huang HF. Leptin down-regulates  $\gamma$ -ENaC expression: a novel mechanism involved in low endometrial receptivity. *Fertil Steril*. 2015 Jan;103(1):228-35.e3. doi: 10.1016/j.fertnstert.2014.10.002. Epub 2014 Oct 24. PMID: 25450293.

Liu Z, Hao C, Huang X, Zhang N, Bao H, Qu Q. Peripheral blood leukocyte expression level of lncRNA steroid receptor RNA activator (SRA) and its association with polycystic ovary syndrome: a case control study. *Gynecol Endocrinol*. 2015 Jan 22:1-6. PMID: 25609053.

Maliqueo M, Sundström Poromaa I, Vanky E, Fornes R, Benrick A, Åkerud H, Stridsklev S, Labrie F, Jansson T, Stener-Victorin E. Placental STAT3 signaling is activated in women with polycystic ovary syndrome. *Hum Reprod*. 2015 Mar;30(3):692-700. doi: 10.1093/humrep/deu351. Epub 2015 Jan 20. PMID: 25609240.

Meczekalski B, Nawrot R, Nowak W, Czyzyk A, Kedzia H, Gozdzicka-Jozefiak A. Study on the zona pellucida 4 (ZP4) gene sequence and its expression in the ovaries of patients with polycystic ovary syndrome. *J Endocrinol Invest*. 2015 Mar 5. PMID: 25740067.

Scholten M, Vilser C, Weise A, Baniahmad A. Atypical polycystic ovary syndrome--a genetic analysis. *Exp Clin Endocrinol Diabetes*. 2015 Jan; 123(1): 55-60. doi: 10.1055/s-0034-1387735. Epub 2014 Aug 22. PMID: 25148265.

Thathapudi S, Kodati V, Erukkambattu J, Addepally U, Qurratulain H. Association of Luteinizing Hormone Chorionic Gonadotropin Receptor Gene Polymorphism (rs2293275) with Polycystic Ovarian Syndrome. *Genet Test Mol Biomarkers*. 2015 Mar;19(3):128-32. doi: 10.1089/gtmb.2014.0249. Epub 2015 Jan 7. PMID: 25565299.

Wang F, Pan J, Liu Y, Meng Q, Lv P, Qu F, Ding GL, Klausen C, Leung PC, Chan HC, Yao W, Zhou CY, Shi B, Zhang J, Sheng J, Huang H. Alternative splicing of the androgen receptor in polycystic ovary syndrome. *Proc Natl Acad Sci U S A*. 2015 Mar 30. pii: 201418216. PMID: 25825716.

Yang J, Zhong T, Xiao G, Chen Y, Liu J, Xia C, Du H, Kang X, Lin Y, Guan R, Yan P, Xiao J. Polymorphisms and haplotypes of the TGF- $\beta$ 1 gene are associated with risk of polycystic ovary syndrome in Chinese Han women. *Eur J Obstet Gynecol Reprod Biol*. 2015 Mar;186:1-7. doi: 10.1016/j.ejogrb.2014.11.004. Epub 2015 Jan 3. PMID: 25594618.

### **PCOS - Immunological Considerations**

Gaberšček S, Zaletel K, Schwetz V, Pieber T, Obermayer-Pietsch B, Lerchbaum E. Mechanisms in endocrinology: thyroid and polycystic ovary syndrome. *Eur J Endocrinol*. 2015 Jan;172(1):R9-21. doi: 10.1530/EJE-14-0295. Review. PMID: 25422352.

Mejia-Montilla J, Álvarez-Mon M, Reyna-Villasmil E, Torres-Cepeda D, Santos-Bolívar J, Reyna-Villasmil N, Suarez-Torres I, Bravo-Henríquez A. Macrophage migration inhibitory factor in obese and non obese women with polycystic ovary syndrome. *Endocrinol Nutr*. 2015 Jan;62(1):31-7. doi: 10.1016/j.endonu.2014.09.005. Epub 2014 Nov 15. English, Spanish. PMID: 25458401.

### **PCOS - After the Menopause**

de Kat AC, Broekmans FJ, Laven JS, van der Schouw YT. Anti-Müllerian Hormone as a marker of ovarian reserve in relation to cardio-metabolic health: a narrative review. *Maturitas*. 2015 Mar;80(3):251-7. doi: 10.1016/j.maturitas.2014.12.010. Epub 2015 Jan 10. Review. PMID: 25640611.

Vitek W, Alur S, Hoeger KM. Off-label drug use in the treatment of polycystic ovary syndrome. *Fertil Steril*. 2015 Mar;103(3):605-11. doi: 10.1016/j.fertnstert.2015.01.019. Review. PMID: 25726702.

### **PCOS - Metabolic Dysfunction/Cardiovascular Disease/Inflammation**

Akram M, Roohi N. Endocrine correlates of polycystic ovary syndrome in Pakistani women. *J Coll Physicians Surg Pak*. 2015 Jan;25(1):22-6. doi: 01.2015/JCPSP.2226. PMID: 25604364.

Amini L, Tehranian N, Movahedin M, Ramezani Tehrani F, Ziaee S. Antioxidants and management of polycystic ovary syndrome in Iran: A systematic review of clinical trials. *Iran J Reprod Med*. 2015 Jan;13(1):1-8. Review. PMID: 25653669.

Aghadavod E, Zarghami N, Farzadi L, Zare M, Barzegari A, Movassaghpour AA, Nouri M. Evaluation of relationship between serum levels of anti-müllerian hormone, androgen, and insulin resistant with retrieval oocytes in overweight patients with polycystic ovary syndrome. *Adv Biomed Res*. 2015 Mar 25;4:76. doi: 10.4103/2277-9175.153903. eCollection 2015. PMID: 25879001.

Albu A, Radian S, Fica S, Barbu CG. Biochemical hyperandrogenism is associated with metabolic syndrome independently of adiposity and insulin resistance in Romanian polycystic ovary syndrome patients. *Endocrine*. 2015 Mar;48(2):696-704. doi: 10.1007/s12020-014-0340-9. Epub 2014 Jul 15. PMID: 25022659.

Almario RU, Karakas SE. Roles of circulating WNT-signaling proteins and WNT-inhibitors in human adiposity, insulin resistance, insulin secretion, and inflammation. *Horm Metab Res*. 2015 Feb;47(2):152-7. doi: 10.1055/s-0034-1384521. Epub 2014 Aug 4. PMID: 25089371.

Amato MC, Magistro A, Gambino G, Vesco R, Giordano C. Visceral adiposity index and DHEAS are useful markers of diabetes risk in women with polycystic ovary syndrome. *Eur J Endocrinol*. 2015 Jan;172(1):79-88. doi: 10.1530/EJE-14-0600. Epub 2014 Oct 23. PMID: 25342852.

Arduc A, Saricam O, Dogan BA, Tuna MM, Tutuncu YA, Isik S, Berker D, Sennaroglu E, Guler S. Should insulin resistance be screened in lean hirsute women? *Gynecol Endocrinol*. 2015 Jan 5:1-5. PMID: 25561024.

Asemi Z, Esmailzadeh A. DASH Diet, Insulin Resistance, and Serum hs-CRP in Polycystic Ovary Syndrome: A Randomized Controlled Clinical Trial. *Horm Metab Res*. 2015 Mar;47(3):232-8. doi: 10.1055/s-0034-1376990. Epub 2014 Jun 23. PMID: 24956415.

Banu LM, Begum D, Rahman SA, Mollah FH, Ferdousi S, Habibullah M. Correlation of hyperinsulinemia with hyperandrogenemia in primary infertile women with polycystic ovary syndrome. *Mymensingh Med J*. 2015 Jan;24(1):127-32. PMID: 25725679.

Basios G, Trakakis E, Chrelias Ch, Panagopoulos P, Vaggopoulos V, Skarpas P, Kassanos D, Dimitriadis G, Hatzigelaki E. The impact of metformin treatment on adiponectin and resistin levels in women with polycystic ovarysyndrome: a prospective clinical study. *Gynecol Endocrinol*. 2015

Feb;31(2):136-40. doi: 10.3109/09513590.2014.975684. Epub 2014 Nov 7. PMID: 25377599.

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.* 2015 Jan;33(1):101-8. doi: 10.1007/s00774-013-0560-8. Epub 2014 Jan 16. PMID: 24430093.

Cassar S, Teede HJ, Harrison CL, Joham AE, Moran LJ, Stepto NK. Response to insulin sensitivity and leptin in women with Polycystic Ovary Syndrome (PCOS). *Clin Endocrinol (Oxf).* 2015 May;82(5):777-8. doi: 10.1111/cen.12678. Epub 2015 Jan 8. PubMed PMID: 25409759.

Covington JD, Bajpeyi S, Moro C, Tchoukalova YD, Ebenezer PJ, Burk DH, Ravussin E, Redman LM. Potential effects of aerobic exercise on the expression of perilipin 3 in the adipose tissue of women with polycystic ovary syndrome: a pilot study. *Eur J Endocrinol.* 2015 Jan;172(1):47-58. doi: 10.1530/EJE-14-0492. Epub 2014 Oct 23. PMID: 25342854.

de Kat AC, Broekmans FJ, Laven JS, van der Schouw YT. Anti-Müllerian Hormone as a marker of ovarian reserve in relation to cardio-metabolic health: a narrative review. *Maturitas.* 2015 Mar;80(3):251-7. doi:10.1016/j.maturitas.2014.12.010. Epub 2015 Jan 10. Review. PubMed PMID: 25640611.

Doğanay M, Ozyer SS, Var T, Tonguc E, Gun Eryilmaz O, Ozer I, Guzel AI. Associations between adipocyte fatty acid-binding protein and clinical parameters in polycystic ovarysyndrome. *Arch Gynecol Obstet.* 2015 Feb;291(2):447-50. doi: 10.1007/s00404-014-3422-2. Epub 2014 Aug 20. PMID: 25138125.

Figurová J, Dravecká I, Javorský M, Petříková J, Lazúrová I. Prevalence of vitamin D deficiency in Slovak women with polycystic ovary syndrome and its relation to metabolic and reproductive abnormalities. *Wien Klin Wochenschr.* 2015 Mar 19. PMID: 25787215.

Fulghesu AM, Manca R, Loi S, Fruzzetti F. Insulin resistance and hyperandrogenism have no substantive association with birth weight in adolescents with polycystic ovary syndrome. *Fertil Steril.* 2015 Mar;103(3):808-14. doi: 10.1016/j.fertnstert.2014.12.109. Epub 2015 Jan 27. PMID: 25637475.

Gower BA, Goss AM. A lower-carbohydrate, higher-fat diet reduces abdominal and intermuscular fat and increases insulin sensitivity in adults at risk of type 2 diabetes. *J Nutr.* 2015 Jan;145(1):177S-83S. doi: 10.3945/jn.114.195065. Epub 2014 Dec 3. PMID: 25527677.

Hashim ZH, Hamdan FB, Al-Salihi AR. Autonomic dysfunction in women with polycystic ovary syndrome. *Iran J Reprod Med.* 2015 Jan;13(1):27-34. PMID: 25653673.

Ito-Yamaguchi A, Suganuma R, Kumagami A, Hashimoto S, Yoshida-Komiya H, Fujimori K. Effects of metformin on endocrine, metabolic milieu and endometrial expression of androgen receptor in patients with polycystic ovary syndrome. *Gynecol Endocrinol.* 2015 Jan;31(1):44-7. doi: 10.3109/09513590.2014.951321. Epub 2014 Sep 19. PMID: 25237893.

Jensterle M, Kravos NA, Pfeifer M, Kocjan T, Janez A. A 12-week treatment with the long-acting glucagon-like peptide 1 receptor agonist liraglutide leads to significant weight loss in a subset of obese women with newly diagnosed polycystic ovary syndrome. *Hormones (Athens).* 2015 Jan;14(1):81-90. PMID: 25885106.

Kort DH, Kostolias A, Sullivan C, Lobo RA. Chemerin as a marker of body fat and insulin resistance in women with polycystic ovary syndrome. *Gynecol Endocrinol.* 2015 Feb;31(2):152-5. doi: 10.3109/09513590.2014.968547. Epub 2014 Oct 8. PMID: 25295622.

La Marca A, Grisendi V, Dondi G, Sighinolfi G, Cianci A. The menstrual cycle regularization following D-chiro-inositol treatment in PCOS women: a retrospective study. *Gynecol Endocrinol.* 2015 Jan;31(1):52-6. doi: 10.3109/09513590.2014.964201. Epub 2014 Sep 30. PMID: 25268566.

Larsson I, Hulthén L, Landén M, Pålsson E, Janson P, Stener-Victorin E. Dietary intake, resting energy expenditure, and eating behavior in women with and without polycystic ovary syndrome. *Clin Nutr.* 2015 Feb 20. pii: S0261-5614(15)00049-7. doi: 10.1016/j.clnu.2015.02.006. PMID: 25743212.

Mayer SB, Evans WS, Nestler JE. Polycystic ovary syndrome and insulin: our understanding in the past, present and future. *Womens Health (Lond Engl).* 2015 Mar;11(2):137-49. doi: 10.2217/whe.14.73. PMID: 25776288.

Misso ML, Teede HJ. Metformin in women with PCOS, cons. *Endocrine.* 2015 Mar;48(2):428-33. doi: 10.1007/s12020-014-0394-8. Epub 2014 Sep 2. PubMed PMID:25178647.

Moran C, Arriaga M, Arechavaleta-Velasco F, Moran S. Adrenal androgen excess and body mass index in polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2015 Mar;100(3):942-50. doi: 10.1210/jc.2014-2569. Epub 2014 Dec 16. PMID: 25514100.

Moran LJ, March WA, Whitrow MJ, Giles LC, Davies MJ, Moore VM. Sleep disturbances in a community-based sample of women with polycystic ovary syndrome. *Hum Reprod.* 2015 Feb;30(2):466-72. doi: 10.1093/humrep/deu318. Epub 2014 Nov 28. PMID: 25432918.

Moran LJ, Norman RJ, Teede HJ. Metabolic risk in PCOS: phenotype and adiposity impact. *Trends Endocrinol Metab.* 2015 Mar;26(3):136-43. doi:10.1016/j.tem.2014.12.003. Epub 2015 Jan 12. Review. PubMed PMID: 25591984.

Mousa A, Naderpoor N, Teede HJ, de Courten MP, Scragg R, de Courten B. Vitamin D and Cardiometabolic Risk Factors and Diseases. *Minerva Endocrinol.* 2015 Feb 25. [Epub ahead of print] PubMed PMID: 25714787.

Naderpoor N, Shorakae S, Joham A, Boyle J, De Courten B, Teede HJ. Obesity and polycystic ovary syndrome. *Minerva Endocrinol.* 2015 Mar;40(1):37-51. Epub 2014 Nov 20. PMID: 25411807.

Nasiri N, Moini A, Eftekhari-Yazdi P, Karimian L, Salman-Yazdi R, Zolfaghari Z, Arabipoor A. Abdominal obesity can induce both systemic and follicular fluid oxidative stress independent from polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol.* 2015 Jan;184:112-6. doi: 10.1016/j.ejogrb.2014.11.008. Epub 2014 Nov 20. PMID: 25498475.

Olszanecka-Glinianowicz M, Madej P, Wdowczyk M, Owczarek A, Chudek J. Circulating FGF21 levels are related to nutritional status and metabolic but not hormonal disturbances in polycystic ovary syndrome. *Eur J Endocrinol.* 2015 Feb;172(2):173-9. doi: 10.1530/EJE-14-0539. Epub 2014 Nov 19. PMID: 25411238.

Paschou SA, Ioannidis D, Vassilatou E, Mizamtsidi M, Panagou M, Lilis D, Tzavara I, Vryonidou A. Birth weight and polycystic ovary syndrome in adult life: is there a causal link? *PLoS One.* 2015 Mar 19;10(3):e0122050. doi: 10.1371/journal.pone.0122050. eCollection 2015. PMID: 25790331.

Platt AM. Insulin resistance, metabolic syndrome, and polycystic ovary syndrome in obese youth. *NASN Sch Nurse.* 2015 Mar 9. pii: 1942602X15575355. PMID: 25816425.

Renato P. Metformin in women with PCOS, *Pros. Endocrine.* 2015 Mar; 48(2):422-6. doi: 10.1007/s12020-014-0311-1. Epub 2014 Jun 10. PMID: 24913417.

Rodrigues AM, Martins LB, Franklin AM, Candido AL, dos Santos LC, Ferreira AV. Poor quality diet is associated with overweight status and obesity in patients with polycystic ovarysyndrome. *J Hum Nutr Diet.* 2015 Feb;28 Suppl 2:94-101. doi: 10.1111/jhn.12205. Epub 2014 Jan 31. PMID: 24479991.

Sam S. Adiposity and metabolic dysfunction in polycystic ovary syndrome. *Horm Mol Biol Clin Investig.* 2015 Feb 1;21(2):107-16. doi: 10.1515/hmbci-2015-0008. PMID: 25781555.

Schulte MM, Tsai JH, Moley KH. Obesity and PCOS: the effect of metabolic derangements on endometrial receptivity at the time of

implantation. *Reprod Sci.* 2015 Jan;22(1):6-14. doi: 10.1177/1933719114561552. Epub 2014 Dec 7. PMID: 25488942.

Spritzer PM, Motta AB, Sir-Petermann T, Diamanti-Kandarakis E. Novel strategies in the management of polycystic ovary syndrome. *Minerva Endocrinol.* 2015 Mar 17. PMID: 25781065.

Sun J, Yuan Y, Cai R, Sun H, Zhou Y, Wang P, Huang R, Xia W, Wang S. An investigation into the therapeutic effects of statins with metformin on polycystic ovary syndrome: a meta-analysis of randomised controlled trials. *BMJ Open.* 2015 Mar 27;5(3):e007280. doi: 10.1136/bmjopen-2014-007280. PMID: 25818277.

Tan S, Vollmar N, Benson S, Sowa JP, Bechmann LP, Gerken G, Fuhrer D, Canbay A. Liver Injury Indicating Fatty Liver but Not Serologic NASH Marker Improves under Metformin Treatment in Polycystic Ovary Syndrome. *Int J Endocrinol.* 2015;2015:254169. doi: 10.1155/2015/254169. Epub 2015 Mar 19. PubMed PMID:25873949; PubMed Central PMCID: PMC4383456.

Taskin MI, Bulbul E, Adali E, Hismiogulları AA, Inceboz U. Circulating levels of obestatin and copeptin in obese and nonobese women with polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol.* 2015 Mar 9;189:19-23. doi: 10.1016/j.ejogrb.2015.03.006. PMID: 25837320.

Tosi F, Di Sarra D, Kaufman JM, Bonin C, Moretta R, Bonora E, Zanolin E, Moghetti P. Total body fat and central fat mass independently predict insulin resistance but not hyperandrogenemia in women with polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2015 Feb;100(2):661-9. doi: 10.1210/jc.2014-2786. Epub 2014 Nov 13. PMID: 25393642.

Trikudanathan S. Polycystic ovarian syndrome. *Med Clin North Am.* 2015 Jan;99(1):221-35. doi: 10.1016/j.mcna.2014.09.003. Epub 2014 Nov 22. Review. PMID: 25456652.

Vázquez MJ, Romero-Ruiz A, Tena-Sempere M. Roles of leptin in reproduction, pregnancy and polycystic ovary syndrome: consensus knowledge and recent developments. *Metabolism.* 2015 Jan;64(1):79-91. doi: 10.1016/j.metabol.2014.10.013. Epub 2014 Oct 23. Review. PMID: 25467843.

Yildizhan R, Gokce AI, Yildizhan B, Cim N. Comparison of the effects of chlormadinone acetate versus drospirenone containing oral contraceptives on metabolic and hormonal parameters in women with PCOS for a period of two-year follow-up. *Gynecol Endocrinol.* 2015 Mar 4:1-5. PMID: 25739031.

Zhang J, Zhang Y, Liu H, Bai H, Wang Y, Jiang C, Fan P. Antioxidant properties of high-density lipoproteins are impaired in women with polycystic ovary syndrome. *Fertil Steril.* 2015 Mar 23. pii: S0015-0282(15)00154-5. doi: 10.1016/j.fertnstert.2015.02.024. PMID: 25813288.

## **PCOS - Neuroendocrine Dysfunction**

Szosland K, Pawlowicz P, Lewinski A. Prolactin secretion in polycystic ovary syndrome (PCOS). *Neuro Endocrinol Lett.* 2015 Feb 19;36(1). PMID: 25789595.

## **PCOS – Ovary**

Artimani T, Saidijam M, Aflatoonian R, Amiri I, Ashrafi M, Shabab N, Mohammadpour N, Mehdizadeh M. Estrogen and progesterone receptor subtype expression in granulosa cells from women with polycystic ovary syndrome. *Gynecol Endocrinol.* 2015 Jan 21:1-5. PMID: 25603724.

Bhide P, Dilgil M, Gudi A, Shah A, Akwaa C, Homburg R. Each small antral follicle in ovaries of women with polycystic ovary syndrome produces more antimüllerian hormone than its counterpart in a normal ovary: an observational cross-sectional study. *Fertil Steril.* 2015 Feb;103(2):537-41. doi: 10.1016/j.fertnstert.2014.10.033. Epub 2014 Nov 20. PMID: 25467043.

Christ JP, Vanden Brink H, Brooks ED, Pierson RA, Chizen DR, Lujan ME. Ultrasound features of polycystic ovaries relate to degree of reproductive and metabolic disturbance in polycystic ovary syndrome. *Fertil Steril.* 2015 Mar;103(3):787-94. doi: 10.1016/j.fertnstert.2014.12.094. Epub 2015 Jan 6. PMID: 25572873.

Gulino FA, Giuffrida E, Leonardi E, Marilli I, Palumbo MA. Intrafollicular Nerve Growth Factor (NGF) concentration in patients with Polycystic Ovarian Syndrome: case-control study. *Minerva Ginecol.* 2015 Feb 25. PMID: 25714876.

Leonhardt H, Hellström M, Gull B, Lind AK, Nilsson L, Janson PO, Stener-Victorin E. Serum anti-Müllerian hormone and ovarian morphology assessed by magnetic resonance imaging in response to acupuncture and exercise in women with polycystic ovary syndrome: secondary analyses of a randomized controlled trial. *Acta Obstet Gynecol Scand.* 2015 Mar;94(3):279-87. doi: 10.1111/aogs.12571. Epub 2015 Jan 28. PMID: 25545309.

Maas KH, Chuan SS, Cook-Andersen H, Su HI, Duleba A, Chang RJ. Relationship between 17-hydroxyprogesterone responses to human chorionic gonadotropin and markers of ovarian follicle morphology in women with polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2015 Jan;100(1):293-300. doi: 10.1210/jc.2014-2956. PMID: 25313914.

Mitra S, Nayak PK, Agrawal S. Laparoscopic ovarian drilling: An alternative but not the ultimate in the management of polycysticovary syndrome. *J Nat Sci Biol*



Med. 2015 Jan-Jun;6(1):40-8. doi: 10.4103/0976-9668.149076. Review. PMID: 25810633.

O'Neill KE, Senapati S, Dokras A. Use of gonadotropin-releasing hormone agonist trigger during in vitro fertilization is associated with similar endocrine profiles and oocyte measures in women with and without polycystic ovary syndrome. *Fertil Steril*. 2015 Jan;103(1):264-9. doi: 10.1016/j.fertnstert.2014.09.042. Epub 2014 Nov 6. PMID: 25450300.

Ozdemir O, Sari ME, Kalkan D, Koc EM, Ozdemir S, Atalay CR. Comparison of ovarian stromal blood flow measured by color Doppler ultrasonography in polycysticovary syndrome patients and healthy women with ultrasonographic evidence of polycystic. *Gynecol Endocrinol*. 2015 Jan 5:1-5. PMID: 25558942.

Pan JX, Liu Y, Ke ZH, Zhou CL, Meng Q, Ding GL, Xu GF, Sheng JZ, Huang HF. Successive and cyclic oral contraceptive pill pretreatment improves IVF/ICSI outcomes of PCOS patients and ameliorates hyperandrogenism and antral follicle excess. *Gynecol Endocrinol*. 2015 Jan 5:1-5. [Epub ahead of print] PMID: 25558892.

Qu J, Che Y, Xu P, Xia Y, Wu X, Wang Y. The Higher Response of Vascular Endothelial Growth Factor and Angiotensin-II to Human Chorionic Gonadotropin in Women with Polycystic Ovary Syndrome. *Int J Fertil Steril*. 2015 Jan-Mar;8(4):373-8. Epub 2015 Feb 7. PMID: 25780518.

Sigala J, Sifer C, Dewailly D, Robin G, Bruyneel A, Ramdane N, Lefebvre-Khalil V, Mitchell V, Decanter C. Is polycystic ovarian morphology related to a poor oocyte quality after controlled ovarian hyperstimulation for intracytoplasmic sperm injection? Results from a prospective, comparative study. *Fertil Steril*. 2015 Jan;103(1):112-8. doi: 10.1016/j.fertnstert.2014.09.040. Epub 2014 Oct 25. PMID: 25450303.

## **PCOS - Phenotypic Variation**

Alpañés M, Luque-Ramírez M, Martínez-García MÁ, Fernández-Durán E, Álvarez-Blasco F, Escobar-Morreale HF. Influence of adrenal hyperandrogenism on the clinical and metabolic phenotype of women with polycystic ovary syndrome. *Fertil Steril*. 2015 Mar;103(3):795-801.e2. doi: 10.1016/j.fertnstert.2014.12.105. Epub 2015 Jan 10. PMID: 25585504.

Daskalopoulos G, Karkanaki A, Piouka A, Prapas N, Panidis D, Gkeleris P, Athyros VG. Excess metabolic and cardiovascular risk is not manifested in all phenotypes of polycystic ovarysyndrome: implications for diagnosis and treatment. *Curr Vasc Pharmacol*. 2015 Jan 20. PMID: 25600030.

Jamil AS, Alalaf SK, Al-Tawil NG, Al-Shawaf T. A case-control observational study of insulin resistance and metabolic syndrome among the four phenotypes of polycystic ovary syndrome based on Rotterdam criteria. *Reprod Health*. 2015 Jan 16;12(1):7. PMID: 25595199.

Mani H, Davies MJ, Bodicoat DH, Levy MJ, Gray LJ, Howlett TA, Khunti K. Clinical characteristics of polycystic ovary syndrome: investigating differences in white and South Asian women. *Clin Endocrinol (Oxf)*. 2015 Mar 30. doi: 10.1111/cen.12784. PMID: 25824095.

Medeiros SF, Barbosa JS, Yamamoto MM. Comparison of steroidogenic pathways among normoandrogenic and hyperandrogenic polycystic ovary syndrome patients and normal cycling women. *J Obstet Gynaecol Res*. 2015 Feb;41(2):254-63. doi: 10.1111/jog.12524. Epub 2014 Sep 26. PMID: 25256274.

Moran LJ, Norman RJ, Teede HJ. Metabolic risk in PCOS: phenotype and adiposity impact. *Trends Endocrinol Metab*. 2015 Mar;26(3):136-43. doi: 10.1016/j.tem.2014.12.003. Epub 2015 Jan 12. Review. PMID: 25591984.

Mumm H, Jensen DM, Sørensen JA, Andersen LL, Ravn P, Andersen M, Glintborg D. Hyperandrogenism and phenotypes of polycystic ovary syndrome are not associated with differences in obstetric outcomes. *Acta Obstet Gynecol Scand*. 2015 Feb;94(2):204-11. doi: 10.1111/aogs.12545. Epub 2014 Dec 25. PMID: 25417943.

Münzker J, Hofer D, Trummer C, Ulbing M, Harger A, Pieber T, Owen L, Keevil B, Brabant G, Lerchbaum E, Obermayer-Pietsch B. Testosterone to dihydrotestosterone ratio as a new biomarker for an adverse metabolic phenotype in the polycystic ovary syndrome. *J Clin Endocrinol Metab*. 2015 Feb;100(2):653-60. doi: 10.1210/jc.2014-2523. Epub 2014 Nov 11. PMID: 25387259.

### **PCOS-Pregnancy Complications**

Katulski K, Czyzyk A, Podfigurna-Stopa A, Genazzani AR, Meczekalski B. Pregnancy complications in polycystic ovary syndrome patients. *Gynecol Endocrinol*. 2015 Feb;31(2):87-91. doi: 10.3109/09513590.2014.974535. Epub 2014 Oct 30. PubMed PMID: 25356655.

Khan GH, Galazis N, Docheva N, Layfield R, Atiomo W. Overlap of proteomics biomarkers between women with pre-eclampsia and PCOS: a systematic review and biomarker database integration. *Hum Reprod*. 2015 Jan;30(1):133-48. doi:10.1093/humrep/deu268. Epub 2014 Oct 28. PubMed PMID: 25351721; PubMed CentralPMCID: PMC4262466.

Løvvik TS, Wikström AK, Neovius M, Stephansson O, Roos N, Vanky E. Pregnancy and perinatal outcomes in women with polycystic ovary syndrome and twin births: a population-based cohort study. *BJOG*. 2015 Mar 11. doi: 10.1111/1471-0528.13339.[Epub ahead of print] PubMed PMID: 25761516.

Maliqueo M, Sundström Poromaa I, Vanky E, Fornes R, Benrick A, Åkerud H, Stridsklev S, Labrie F, Jansson T, Stener-Victorin E. Placental STAT3 signaling is activated in women with polycystic ovary syndrome. *Hum Reprod*. 2015

Mar;30(3):692-700. doi: 10.1093/humrep/deu351. Epub 2015 Jan 20. PubMed PMID:25609240.

Mumm H, Jensen DM, Sørensen JA, Andersen LL, Ravn P, Andersen M, Glintborg D. Hyperandrogenism and phenotypes of polycystic ovary syndrome are not associated with differences in obstetric outcomes. *Acta Obstet Gynecol Scand.* 2015Feb;94(2):204-11. doi: 10.1111/aogs.12545. Epub 2014 Dec 25. PubMed PMID:25417943.

Naderpoor N, Shorakae S, Joham A, Boyle J, De Courten B, Teede HJ. Obesity and polycystic ovary syndrome. *Minerva Endocrinol.* 2015 Mar;40(1):37-51. Epub 2014 Nov 20. PubMed PMID: 25411807.

Wan HL, Hui PW, Li HW, Ng EH. Obstetric outcomes in women with polycystic ovary syndrome and isolated polycystic ovaries undergoing in vitro fertilization: a retrospective cohort analysis. *J Matern Fetal Neonatal Med.* 2015 Mar;28(4):475-8. doi: 10.3109/14767058.2014.921673. Epub 2014 May 29. PubMed PMID: 24803007.

## **PCOS Psychology**

Correa JB, Sperry SL, Darkes J. A case report demonstrating the efficacy of a comprehensive cognitive-behavioral therapy approach for treating anxiety, depression, and problematic eating in polycystic ovarian syndrome. *Arch Womens Ment Health.* 2015 Jan 28. [Epub ahead of print] PubMed PMID: 25627019.

De Frène V, Verhofstadt L, Loeys T, Stuyver I, Buysse A, De Sutter P. Sexual and relational satisfaction in couples where the woman has polycystic ovary syndrome: a dyadic analysis. *Hum Reprod.* 2015 Mar;30(3):625-31. doi:10.1093/humrep/deu342. Epub 2014 Dec 22. PubMed PMID: 25534460.

Guidi J, Gambineri A, Zanotti L, Fanelli F, Fava GA, Pasquali R. Psychological aspects of hyperandrogenic states in late adolescent and young women. *Clin Endocrinol (Oxf).* 2015 Mar 30. doi: 10.1111/cen.12783. [Epub ahead of print] PubMed PMID: 25823959.

Hussain A, Chandel RK, Ganie MA, Dar MA, Rather YH, Wani ZA, Shiekh JA, Shah MS. Prevalence of psychiatric disorders in patients with a diagnosis of polycystic ovary syndrome in kashmir. *Indian J Psychol Med.* 2015Jan-Mar;37(1):66-70. doi: 10.4103/0253-7176.150822. PubMed PMID: 25722515; PubMedCentral PMCID: PMC4341314.

Klimczak D, Szlendak-Sauer K, Radowicki S. Depression in relation to biochemical parameters and age in women with polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol.* 2015 Jan;184:43-7. doi: 10.1016/j.ejogrb.2014.10.028. Epub 2014 Nov 6. PubMed PMID: 25463634.

Kowalczyk R, Skrzypulec-Plinta V, Nowosielski K, Lew-Starowicz Z. Sexuality in women with polycystic ovary syndrome. *Ginekol Pol.* 2015 Feb;86(2):100-6. PubMed PMID: 25807833.

Larsson I, Hulthén L, Landén M, Pålsson E, Janson P, Stener-Victorin E. Dietary intake, resting energy expenditure, and eating behavior in women with and without polycystic ovary syndrome. *Clin Nutr.* 2015 Feb 20. pii:S0261-5614(15)00049-7. doi: 10.1016/j.clnu.2015.02.006. [Epub ahead of print]PubMed PMID: 25743212.

Moran LJ, March WA, Whitrow MJ, Giles LC, Davies MJ, Moore VM. Sleep disturbances in a community-based sample of women with polycystic ovary syndrome. *Hum Reprod.* 2015 Feb;30(2):466-72. doi: 10.1093/humrep/deu318. Epub 2014 Nov 28. PubMed PMID: 25432918.

Naqvi SH, Moore A, Bevilacqua K, Lathief S, Williams J, Naqvi N, Pal L. Predictors of depression in women with polycystic ovary syndrome. *Arch Womens Ment Health.* 2015 Feb;18(1):95-101. doi: 10.1007/s00737-014-0458-z. Epub 2014 Sep 11. PubMed PMID: 25209354.

Raja-Khan N, Agito K, Shah J, Stetter CM, Gustafson TS, Socolow H, Kunselman AR, Reibel DK, Legro RS. Mindfulness-based stress reduction for overweight/obese women with and without polycystic ovary syndrome: design and methods of a pilot randomized controlled trial. *Contemp Clin Trials.* 2015 Mar;41:287-97. doi: 10.1016/j.cct.2015.01.021. Epub 2015 Feb 7. PubMed PMID: 25662105; PubMed Central PMCID: PMC4380576.

Stefanaki C, Bacopoulou F, Livadas S, Kandaraki A, Karachalios A, Chrousos GP, Diamanti-Kandarakis E. Impact of a mindfulness stress management program on stress, anxiety, depression and quality of life in women with polycystic ovary syndrome: a randomized controlled trial. *Stress.* 2015 Jan;18(1):57-66. doi:10.3109/10253890.2014.974030. Epub 2014 Dec 29. PubMed PMID: 25287137.

Zueff LN, Lara LA, Vieira CS, Martins Wde P, Ferriani RA. Body composition characteristics predict sexual functioning in obese women with or without PCOS. *J Sex Marital Ther.* 2015;41(3):227-37. doi: 10.1080/0092623X.2013.864369. Epub 2014 Jan 23. PubMed PMID: 24274091.

### **PCOS Thyroid complications**

Arduc A, Dogan BA, Bilmez S, Imga Nasiroglu N, Tuna MM, Isik S, Berker D, Guler S. High prevalence of Hashimoto's thyroiditis in patients with polycystic ovary syndrome: does the imbalance between estradiol and progesterone play a role? *Endocr Res.* 2015 Mar 30:1-7. [Epub ahead of print] PubMed PMID: 25822940.

Gaberšček S, Zaletel K, Schwetz V, Pieber T, Obermayer-Pietsch B, Lerchbaum E. Mechanisms in endocrinology: thyroid and polycystic ovary

syndrome. *Eur J Endocrinol*. 2015 Jan;172(1):R9-21. doi: 10.1530/EJE-14-0295. Review. PubMed PMID:25422352.

Novais Jde S, Benetti-Pinto CL, Garmes HM, Jales RM, Juliato CR. Polycystic ovary syndrome and chronic autoimmune thyroiditis. *Gynecol Endocrinol*. 2015 Jan;31(1):48-51. doi: 10.3109/09513590.2014.958990. Epub 2014 Sep 11. PubMed PMID: 25211537.

Singla R, Gupta Y, Khemani M, Aggarwal S. Thyroid disorders and polycystic ovary syndrome: An emerging relationship. *Indian J Endocrinol Metab*. 2015 Jan-Feb;19(1):25-9. doi: 10.4103/2230-8210.146860. Review. PubMed PMID: 25593822; PubMed Central PMCID: PMC4287775.

### **PCOS Infertility**

Abu Hashim H. Predictors of success of laparoscopic ovarian drilling in women with polycystic ovary syndrome: an evidence-based approach. *Arch Gynecol Obstet*. 2015 Jan;291(1):11-8. doi: 10.1007/s00404-014-3447-6. Epub 2014 Sep 4. PubMed PMID: 25186279.

Ambekar AS, Kelkar DS, Pinto SM, Sharma R, Hinduja I, Zaveri K, Pandey A, Prasad TS, Gowda H, Mukherjee S. Proteomics of follicular fluid from women with polycystic ovary syndrome suggests molecular defects in follicular development. *J Clin Endocrinol Metab*. 2015 Feb;100(2):744-53. doi: 10.1210/jc.2014-2086. Epub 2014 Nov 13. PubMed PMID: 25393639.

Artimani T, Saidijam M, Aflatoonian R, Amiri I, Ashrafi M, Shabab N, Mohammadpour N, Mehdizadeh M. Estrogen and progesterone receptor subtype expression in granulosa cells from women with polycystic ovary syndrome. *Gynecol Endocrinol*. 2015 Jan 21:1-5. [Epub ahead of print] PubMed PMID: 25603724.

Banu LM, Begum D, Rahman SA, Mollah FH, Ferdousi S, Habibullah M. Correlation of hyperinsulinemia with hyperandrogenemia in primary infertile women with polycystic ovary syndrome. *Mymensingh Med J*. 2015 Jan;24(1):127-32. PubMed PMID: 25725679.

Bhide P, Dilgil M, Gudi A, Shah A, Akwaa C, Homburg R. Each small antral follicle in ovaries of women with polycystic ovary syndrome produces more antimüllerian hormone than its counterpart in a normal ovary: an observational cross-sectional study. *Fertil Steril*. 2015 Feb;103(2):537-41. doi: 10.1016/j.fertnstert.2014.10.033. Epub 2014 Nov 20. PubMed PMID: 25467043.

Cahill DJ, O'Brien K. Polycystic ovary syndrome (PCOS): metformin. *BMJ Clin Evid*. 2015 Mar 27;2015. pii: 1408. PubMed PMID: 25814168.

Chen H, Guo JH, Zhang XH, Chan HC. Defective CFTR-regulated granulosa cell proliferation in polycystic ovarian syndrome. *Reproduction*.

2015May;149(5):393-401. doi: 10.1530/REP-14-0368. Epub 2015 Feb 2. PubMed PMID:25646509.

Choavaratana R, Thanaboonyawat I, Laokirkkiat P, Prechapanich J, Suksompong S, Mekemaharn O, Petyim S. Outcomes of Follicle-Stimulating Hormone Priming and Nonpriming in in vitro Maturation of Oocytes in Infertile Women with Polycystic Ovarian Syndrome: A Single-Blinded Randomized Study. *Gynecol Obstet Invest.*2015;79(3):153-9. doi: 10.1159/000367660. Epub 2014 Dec 10. PubMed PMID:25503808.

De Frène V, Verhofstadt L, Loeys T, Stuyver I, Buysse A, De Sutter P. Sexual and relational satisfaction in couples where the woman has polycystic ovary syndrome: a dyadic analysis. *Hum Reprod.* 2015 Mar;30(3):625-31. doi:10.1093/humrep/deu342. Epub 2014 Dec 22. PubMed PMID: 25534460.

Ecklund LC, Usadi RS. Endocrine and reproductive effects of polycystic ovariansyndrome. *Obstet Gynecol Clin North Am.* 2015 Mar;42(1):55-65. doi:10.1016/j.ogc.2014.09.003. Epub 2014 Dec 13. Review. PubMed PMID: 25681840.

El-Gharib MN, Mahfouz AE, Farahat MA. Comparison of letrozole versus tamoxifen effects in clomiphene citrate resistant women with polycystic ovarian syndrome. *J Reprod Infertil.* 2015 Jan-Mar;16(1):30-5. PubMed PMID: 25717433;PubMed Central PMCID: PMC4322179.

Franik S, Kremer JA, Nelen WL, Farquhar C, Marjoribanks J. Aromatase inhibitors for subfertile women with polycystic ovary syndrome: summary of a Cochrane review. *Fertil Steril.* 2015 Feb;103(2):353-5. doi:10.1016/j.fertnstert.2014.10.016. Epub 2014 Nov 5. Review. PubMed PMID: 25455536.

Joham AE, Teede HJ, Ranasinha S, Zoungas S, Boyle J. Prevalence of infertility and use of fertility treatment in women with polycystic ovary syndrome: data from a large community-based cohort study. *J Womens Health (Larchmt).* 2015 Apr;24(4):299-307. doi: 10.1089/jwh.2014.5000. Epub 2015 Feb 5. PubMed PMID: 25654626.

Mayer SB, Evans WS, Nestler JE. Polycystic ovary syndrome and insulin: our understanding in the past, present and future. *Womens Health (Lond Engl).* 2015Mar;11(2):137-49. doi: 10.2217/whe.14.73. PubMed PMID: 25776288.

Meczekalski B, Nawrot R, Nowak W, Czyzyk A, Kedzia H, Gozdzicka-Jozefiak A. Study on the zona pellucida 4 (ZP4) gene sequence and its expression in the ovaries of patients with polycystic ovary syndrome. *J Endocrinol Invest.* 2015 Mar 5. [Epub ahead of print] PubMed PMID: 25740067.

Nasiri N, Moini A, Eftekhari-Yazdi P, Karimian L, Salman-Yazdi R, Zolfaghari Z, Arabipour A. Abdominal obesity can induce both systemic and follicular fluid

oxidative stress independent from polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol.* 2015 Jan;184:112-6. doi: 10.1016/j.ejogrb.2014.11.008. Epub 2014 Nov 20. PubMed PMID: 25498475.

O'Neill KE, Senapati S, Dokras A. Use of gonadotropin-releasing hormone agonist trigger during in vitro fertilization is associated with similar endocrine profiles and oocyte measures in women with and without polycystic ovary syndrome. *Fertil Steril.* 2015 Jan;103(1):264-9. doi:10.1016/j.fertnstert.2014.09.042. Epub 2014 Nov 6. PubMed PMID: 25450300.

Palomba S. Aromatase inhibitors for ovulation induction. *J Clin Endocrinol Metab.* 2015 May;100(5):1742-7. doi: 10.1210/jc.2014-4235. Epub 2015 Feb 24. PubMed PMID: 25710566.

Pekel A, Gönenç A, Turhan NÖ, Kafalı H. Changes of sFas and sFasL, oxidative stress markers in serum and follicular fluid of patients undergoing IVF. *J Assist Reprod Genet.* 2015 Feb;32(2):233-41. doi: 10.1007/s10815-014-0396-8. Epub 2014 Dec 9. PubMed PMID: 25488202; PubMed Central PMCID: PMC4354184.

Portocarrero-Sanchez C, Gomes-Sobrinho DB, Nakagawa HM, Silva AA, Carvalho BR, Sarkis NT, Peraçoli JC, Cardoso MT. The association between follicular size at the time of spontaneous rupture and pregnancy rates in clomiphene citrate treated PCOS patients in coit cycles. *Gynecol Endocrinol.* 2015 Mar 18:1-4. [Epub ahead of print] PubMed PMID: 25784169.

Rice AD, Patterson K, Wakefield LB, Reed ED, Breder KP, Wurn BF, King Iii R, Wurn LJ. Ten-year Retrospective Study on the Efficacy of a Manual Physical Therapy to Treat Female Infertility. *Altern Ther Health Med.* 2015 Feb 17. pii: at5233. [Epub ahead of print] PubMed PMID: 25691329.

Ried K. Chinese herbal medicine for female infertility: an updated meta-analysis. *Complement Ther Med.* 2015 Feb;23(1):116-28. doi:10.1016/j.ctim.2014.12.004. Epub 2015 Jan 3. PubMed PMID: 25637159.

Russell DL, Brown HM, Dunning KR. ADAMTS proteases in fertility. *Matrix Biol.* 2015 Mar 26. pii: S0945-053X(15)00058-X. doi: 10.1016/j.matbio.2015.03.007. [Epub ahead of print] Review. PubMed PMID: 25818315.

Sigala J, Sifer C, Dewailly D, Robin G, Bruyneel A, Ramdane N, Lefebvre-Khalil V, Mitchell V, Decanter C. Is polycystic ovarian morphology related to a poor oocyte quality after controlled ovarian hyperstimulation for intracytoplasmic sperm injection? Results from a prospective, comparative study. *Fertil Steril.* 2015 Jan;103(1):112-8. doi: 10.1016/j.fertnstert.2014.09.040. Epub 2014 Oct 25. PubMed PMID: 25450303.

Spritzer PM, Motta AB, Sir-Petermann T, Diamanti-Kandarakis E. Novel strategies in the management of polycystic ovary syndrome. *Minerva Endocrinol.* 2015 Mar 17. [Epub ahead of print] PubMed PMID: 25781065.

Tal R, Tal O, Seifer BJ, Seifer DB. Antimüllerian hormone as predictor of implantation and clinical pregnancy after assisted conception: a systematic review and meta-analysis. *Fertil Steril*. 2015 Jan;103(1):119-30.e3. doi:10.1016/j.fertnstert.2014.09.041. Epub 2014 Oct 24. Review. PubMed PMID: 25450298.

Turner-McGrievy G, Davidson CR, Billings DL. Dietary intake, eating behaviors, and quality of life in women with polycystic ovary syndrome who are trying to conceive. *Hum Fertil (Camb)*. 2015 Mar;18(1):16-21. doi:10.3109/14647273.2014.922704. Epub 2014 Jun 12. PubMed PMID: 24921163.

Valkenburg O, van Santbrink EJ, König TE, Themmen AP, Uitterlinden AG, Fauser BC, Lambalk CB, Laven JS. Follicle-stimulating hormone receptor polymorphism affects the outcome of ovulation induction in normogonadotropic (World Health Organization class 2) anovulatory subfertility. *Fertil Steril*. 2015 Apr;103(4):1081-1088.e3. doi: 10.1016/j.fertnstert.2015.01.002. Epub 2015 Feb 24. PubMed PMID: 25721191.

Wall DJ, Javitt MC, Glanc P, Bhosale PR, Harisinghani MG, Harris RD, Khati NJ, Mitchell DG, Nyberg DA, Pandharipande PV, Pannu HK, Shipp TD, Siegel CL, Simpson L, Wong-You-Cheong JJ, Zelop CM. ACR appropriateness Criteria® infertility. *Ultrasound Q*. 2015 Mar;31(1):37-44. doi:10.1097/RUQ.0000000000000132. PubMed PMID: 25706363.

Xu B, Zhang YW, Tong XH, Liu YS. Characterization of microRNA profile in human cumulus granulosa cells: Identification of microRNAs that regulate Notch signaling and are associated with PCOS. *Mol Cell Endocrinol*. 2015 Mar;404:26-36. doi: 10.1016/j.mce.2015.01.030. Epub 2015 Jan 23. PubMed PMID:25622783.

Yanamandra NK, Gundabattula SR. Outcome of ovarian drilling in women with polycystic ovary syndrome. *J Clin Diagn Res*. 2015 Feb;9(2):QC01-3. doi:10.7860/JCDR/2015/8001.5586. Epub 2015 Feb 1. PubMed PMID: 25859492; PubMedCentral PMCID: PMC4378774.

Zhao Y, Zhang C, Huang Y, Yu Y, Li R, Li M, Liu N, Liu P, Qiao J. Up-regulated expression of WNT5a increases inflammation and oxidative stress via PI3K/AKT/NF- $\kappa$ B signaling in the granulosa cells of PCOS patients. *J Clin Endocrinol Metab*. 2015 Jan;100(1):201-11. doi: 10.1210/jc.2014-2419. PubMed PMID:25303486.

Ziller V, Heilmaier C, Kostev K. Time to pregnancy in subfertile women in German gynecological practices: analysis of a representative cohort of more than 60,000 patients. *Arch Gynecol Obstet*. 2015 Mar;291(3):657-62. doi:10.1007/s00404-014-3449-4. Epub 2014 Sep 4. PubMed PMID: 25182216.

## **PCOS Uterus/Endometrium**



Gottschau M, Kjaer SK, Jensen A, Munk C, Mellekjaer L. Risk of cancer among women with polycystic ovary syndrome: a Danish cohort study. *Gynecol Oncol*. 2015 Jan;136(1):99-103. doi: 10.1016/j.ygyno.2014.11.012. Epub 2014 Nov 20. PubMed PMID: 25451694.

Ito-Yamaguchi A, Suganuma R, Kumagami A, Hashimoto S, Yoshida-Komiya H, Fujimori K. Effects of metformin on endocrine, metabolic milieu and endometrial expression of androgen receptor in patients with polycystic ovary syndrome. *Gynecol Endocrinol*. 2015 Jan;31(1):44-7. doi: 10.3109/09513590.2014.951321. Epub 2014 Sep 19. PubMed PMID: 25237893.

Lin XH, Liu ME, Xu HY, Chen XJ, Wang H, Tian S, Sheng JZ, Huang HF. Leptin down-regulates  $\gamma$ -ENaC expression: a novel mechanism involved in low endometrial receptivity. *Fertil Steril*. 2015 Jan;103(1):228-35.e3. doi: 10.1016/j.fertnstert.2014.10.002. Epub 2014 Oct 24. PubMed PMID: 25450293.

Piltonen TT, Chen JC, Khatun M, Kangasniemi M, Liakka A, Spitzer T, Tran N, Huddleston H, Irwin JC, Giudice LC. Endometrial stromal fibroblasts from women with polycystic ovary syndrome have impaired progesterone-mediated decidualization, aberrant cytokine profiles and promote enhanced immune cell migration in vitro. *Hum Reprod*. 2015 May;30(5):1203-15. doi:10.1093/humrep/dev055. Epub 2015 Mar 6. PubMed PMID: 25750105.

Schulte MM, Tsai JH, Moley KH. Obesity and PCOS: the effect of metabolic derangements on endometrial receptivity at the time of implantation. *Reprod Sci*. 2015 Jan;22(1):6-14. doi: 10.1177/1933719114561552. Epub 2014 Dec 7. PubMed PMID:25488942.

Uysal S, Zeki Isik A, Eris S, Yigit S, Yalcin Y, Ozun Ozbay P. Correlation of endometrial glycodeclin expression and pregnancy outcome in cases with polycystic ovary syndrome treated with clomiphene citrate plus metformin: a controlled study. *Obstet Gynecol Int*. 2015;2015:278591. doi: 10.1155/2015/278591. Epub 2015 Feb 28. PubMed PMID: 25815012; PubMed Central PMCID: PMC4359801.

Yu J, Ma Y, Wu Z, Li Y, Tang L, Li Y, Deng B. Endometrial preparation protocol of the frozen-thawed embryo transfer in patients with polycystic ovary syndrome. *Arch Gynecol Obstet*. 2015 Jan;291(1):201-11. doi: 10.1007/s00404-014-3396-0. Epub 2014 Jul 31. PubMed PMID: 25091221.

### **Premature adrenarche**

Cebeci AN, Taş A. Higher body fat and lower fat-free mass in girls with premature adrenarche. *J Clin Res Pediatr Endocrinol*. 2015 Mar 5;7(1):45-8. doi:10.4274/jcrpe.1525. PubMed PMID: 25800475

Chin VL, Cai Z, Lam L, Shah B, Zhou P. Evaluation of puberty by verifying spontaneous and stimulated gonadotropin values in girls. *J Pediatr Endocrinol Metab.* 2015 Mar;28(3-4):387-92. doi: 10.1515/jpem-2014-0135. PubMed PMID:25514323.

Schoelwer MJ, Donahue KL, Bryk K, Didrick P, Berenbaum SA, Eugster EA. Psychological assessment of mothers and their daughters at the time of diagnosis of precocious puberty. *Int J Pediatr Endocrinol.* 2015;2015(1):5. doi:10.1186/s13633-015-0001-7. Epub 2015 Mar 16. PubMed PMID: 25780366; PubMedCentral PMCID: PMC4361154.

Utriainen P, Laakso S, Liimatta J, Jääskeläinen J, Voutilainen R. Premature Adrenarche - A Common Condition with Variable Presentation. *Horm Res Paediatr.* 2015 Feb 7. [Epub ahead of print] PubMed PMID: 25676474.

Voutilainen R, Jääskeläinen J. Premature adrenarche: etiology, clinical findings, and consequences. *J Steroid Biochem Mol Biol.* 2015 Jan;145:226-36. doi:10.1016/j.jsbmb.2014.06.004. Epub 2014 Jun 9. Review. PubMed PMID: 24923732.