

References

- 1- Martin-Romero FJ, Miguel-Lasobras EM, Dominguez-Arroyo JA, Gonzalez-Carrera E, Alvarez IS. Contribution of culture media to oxidative stress and its effects on human oocytes. *Reprod Biomed Online* 2008; 17:652–61.
- 2- Goud AP, Goud PT, Diamond MP, Gonik B, Abu-Soud HM. Reactive oxygen species and oocyte aging: role of superoxide, hydrogen peroxide, and hypochlorous acid. *Free Radic BiolMed* 2008; 44:1295–304.
- 3- Tamura H, Nakamura Y, Korkmaz A, Manchester LC, Tan DX, Sugino N, et al. Melatonin and the ovary: physiological and pathophysiological implication. *Fertil Steril* 2009; 92:328–43.
- 4- Ménézo Y, Dale B, Cohen M. DNA damage and repair in human oocytes and embryos: a review. *Zygote* 2010; 18:357–65.
- 5- Tan DX, Chen LD, Poeggeler B, Manchester LC, Reiter RJ. Melatonin: a potent endogenous hydroxyl radical scavenger. *Endocr J* 1993; 1:57–60.
- 6- Reiter RJ, Tan DX, Manchester LC, El-Sawi MR. Melatonin reduces oxidant damage and promotes mitochondrial respiration implications for aging. *Ann N Y Acad Sci* 2002; 959:238–50.
- 7- Reiter RJ, Rosales-Corral SA, Manchester LC, Tan DX. Peripheral reproductive organ health and melatonin: ready for prime time. *IntJ Mol Sci* 2013; 14:7231–72.
- 8- Tamura H, Takasaki A, Miwa I, Taniguchi K, Maekawa R, Asada H, Taketani T, Matsuoka A, Yamagata Y, Shimamura K, Morioka H, Ishikawa H, Reiter RJ, Sugino N: Oxidative stress impairs oocyte quality and melatonin protects oocytes from free radical damage and improves fertilisation rate. *J Pineal Res* 2008, 44(3):280–87.
- 9- Hemadi M, Shokri S, Pourmatroud E, Moramezi F, Khodadai A: Follicular dynamic and immunoreactions of the vitrified ovarian graft after host treatment with variable regimens of melatonin. *Am J Reprod Immunol* 2012, 67:401–412.
- 10- Jahnke G, Marr M, Myers C, Wilson R, Travlos G, Price C: Maternal and developmental toxicity evaluation of melatonin administered orally to pregnant Sprague–Dawley rats. *Toxicol Sci* 1999, 50:271–279.
- 11- Yılmaz B, Kilic S, Aksakal O, Ertas IE, Tanrisever GG, Aksoy Y, Lortlar N, Kelekci S, Gungor T. *Arch Gynecol Obstet.* 2015 Jul;292(1):209-16.
- 12- Tagliaferri V, Romualdi D, Scarinci E, Cicco S, Florio CD, Immediata V, Tropea A, Santarsiero CM, Lanzone A, Apa R. Melatonin Treatment May Be Able to Restore Menstrual Cyclicity in Women With PCOS: A Pilot Study. *Reprod Sci.* 2017 Jan 1:1933719117711262.
- 13- Staikou C, Kyrozis A, Moschovos C, Fassoulaki A: Effects of morning melatonin administration on electroencephalographic theta to alpha power ratio in reproductive versus postmenopausal healthy female volunteers. *Neurosci Lett* 2012, 507:90–93.
- 14- Eryilmaz O, Devran A, Sarikaya E, Aksakal F, Mollamahmutoğlu L, Cicek N: Melatonin improves the oocyte and the embryo in IVF patients with sleep disturbances, but does not improve the sleeping problems. *J Assist Reprod Genet* 2011, 28:815–820.
- 15- Batioğlu A, Şahin U, Gürlek B, Öztürk N, Ünsal E: The efficacy of melatonin administration on oocyte quality. *Gynecol Endocrinol* 2012, 28:91–93.

- 16-Berridge MJ, Irvine RF. Inositol phosphates and cell signalling. *Nature* 1989;341(6239):197–205.
- 17-Ciotta L, Stracquadiano M, Pagano I, Carbonaro A, Palumbo M, Gulino F. Effects of myo-inositol supplementation on oocyte's quality in PCOS patients: a double-blind trial. *European Review for Medical & Pharmacological Sciences* 2011;15(5):509–14.
- 18-Gerli S, Papaleo E, Ferrari A, Di Renzo G. Randomized, double blind placebo-controlled trial: effects of Myoinositol on ovarian function and metabolic factors in women with PCOS. *European Review for Medical and Pharmacological Sciences* 2007; 11:347–54.
- 19-Papaleo E, Unfer V, Baillargeon J, Fusi F, Occhi F, De Santis L. Myo-inositol may improve oocyte quality in intracytoplasmic sperm injection cycles: a prospective, controlled, randomized trial. *Fertility and Sterility* 2009;91 (5):1750–4.
- 20-Goud PT, Goud AP, Van Oostveldt P, Dhont M. Presence and dynamic redistribution of type I inositol 1,4,5-trisphosphate receptors in human oocytes and embryos during in-vitro maturation, fertilization and early cleavage divisions. *Mol Hum Reprod.* 1999 May;5(5):441-51.
- 21-Unfer V, Carlomagno G, Rizzo P, Raffone E, Roseff S. Myo-inositol rather than D-chiro-inositol is able to improve oocyte quality in intracytoplasmic sperm injection cycles: a prospective, controlled, randomized trial. *European Review for Medical and Pharmacological Sciences* 2011;15/4:452–7.
- 22-Stachecki JJ, Armant DR. Transient release of calcium from inositol 1,4,5 triphosphate specific stores regulate mouse preimplantation development. *Development* 1996;122(8):2485–2496.
- 23-Chiu TT, Rogers MS, Briton-Jones C, Haines C. Effects of myo-inositol on the in-vitro maturation and subsequent development of mouse oocytes. *Hum Reprod.* 2003 Feb;18(2):408-16.
- 24-T. T. Y. Chiu, M. S. Rogers, E. L. K. Law, C. M. Briton-Jones, L. P. Cheung, and C. J. Haines, "Follicular fluid and serum concentrations of myo-inositol in patients undergoing IVF: relationship with oocyte quality," *Human Reproduction*, vol. 17, no. 6, pp. 1591–1596, 2002.
- 25-Gerli S, Papaleo E, Ferrari A, Di Renzo GC. Randomized, double blind placebo-controlled trial: effects of myo-inositol on ovarian function and metabolic factors in women with PCOS. *Eur Rev Med Pharmacol Sci.* 2007 Sep-Oct;11(5):347-54.
- 26-Jiang WD, Wu P, Kuang SY, Liu Y, Jiang J, Hu K, et al. Myo-inositol prevents copper-induced oxidative damage and changes in antioxidant capacity in various organs and the enterocytes of juvenile Jian carp (*Cyprinus carpio* var. Jian) *Aquat Toxicol.* 2011;5(3-4):543–51.
- 27-Nestler JE. Myo-inositolphosphoglycans (IPGs) as mediators of insulin's steroidogenic actions. *Journal of BasicClinical Physiological Pharmacology* 1998; 9:197–204.
- 28-Artini PG, Di Berardino OM, Papini F, Genazzani AD, Simi G, Ruggiero M, Cela V. Endocrine and clinical effects of myo-inositol administration in polycystic ovary syndrome. A randomized study. *Gynecol Endocrinol.* 2013 Apr;29(4):375-9.

- 29-Gounder, D.K., Lingamallu, J., 2012. Comparison of chemical composition and antioxidant potential of volatile oil from fresh, dried and cured turmeric (*Curcuma longa*) rhizomes. *Ind. Crops Prod.* 38, 124–131.
- 30-Loganes C, Lega S, Bramuzzo M, Vecchi Brumatti L, Piscianz E, Valencic E, Tommasini A, Marcuzzi A. Curcumin Anti-Apoptotic Action in a Model of Intestinal Epithelial Inflammatory Damage. *Nutrients.* 2017 Jun 6;9(6). pii: E578.
- 31-Ali BH, Al-Salam S, Al Suleimani Y, Al Kalbani J, Al Bahlani S, Ashique M, Manoj P, Al Zhili B, Al Abri N, Naser HT, Yasin J, Nemmar A, Al Za'abi M, Hartmann C, Schupp N. Curcumin Ameliorates Kidney Function and Oxidative Stress in Experimental Chronic Kidney Disease. *Basic Clin Pharmacol Toxicol.* 2017 May 31.
- 32-Voznesens'ka Tlu, Bryzhina TM, Sukhina VS, Makohon NV, Aleksieieva IM. [Effect of NF-kappaB activation inhibitor curcumin on the oogenesis and follicular cell death in immune ovarian failure in mice]. *Fiziol Zh.* 2010;56(4):96-101.
- 33-Aktas, C., Kanter, M., Kocak, Z., 2012. Antiapoptotic and proliferative activity of curcumin on ovarian follicles in mice exposed to whole body ionizing radiation. *Toxicol. Ind. Health.* 28, 852–863.
- 34-Alekseyeva, I.N., Makogon, N.V., Bryzgina, T.M., Voznesenskaya, T.Y., Sukhina, V.S., 2011. Effects of NF-κB blocker curcumin on oogenesis and immunocompetent organ cells in immune ovarian injury in mice. *Bull. Exp. Biol. Med.* 151, 432–435.
- 35-Tiwari-Pandey, R., Ram Sairam, M., 2009. Modulation of ovarian structure and abdominal obesity in curcumin- and flutamide-treated aging FSH-R haploinsufficient mice. *Reprod. Sci.* 16, 539–550.
- 36-Kim KH, Lee EN, Park JK, Lee JR, Kim JH, Choi HJ, Kim BS, Lee HW, Lee KS, Yoon S. Curcumin attenuates TNF-α-induced expression of intercellular adhesion molecule-1, vascular cell adhesion molecule-1 and proinflammatory cytokines in human endometriotic stromal cells. *Phytother Res.* 2012 Jul;26(7):1037-47.
- 37-Swarnakar S, Paul S. Curcumin arrests endometriosis by downregulation of matrix metalloproteinase-9 activity. *Indian J Biochem Biophys.* 2009 Feb;46(1):59-65.
- 38-Dumollard R, Ward Z, Carroll J, Duchen MR (2007) Regulation of redox metabolism in the mouse oocyte and embryo. *Development* 134, 455–465.
- 39-Takeuchi T, Neri QV, Katagiri Y, Rosenwaks Z, Palermo GD (2005) Effect of treating induced mitochondrial damage on embryonic development and epigenesis. *Biol. Reprod.* 72, 584–592.
- 40-Thouas GA, Trounson AO, Jones GM (2006) Developmental effects of sublethal mitochondrial injury in mouse oocytes. *Biol. Reprod.* 74, 969–977.
- 41-Wyman A, Pinto AB, Sheridan R, Moley KH (2008) One-cell zygote transfer from diabetic to nondiabetic mouse results in congenital malformations and growth retardation in offspring. *Endocrinology* 149, 466–469.
- 42-Crane FL (2001) Biochemical functions of coenzyme Q10. *J. Am. Coll. Nutr.* 20, 591–598.
- 43-Quinzii CM, Lopez LC, Gilkerson RW, Dorado B, Coku J, Naini AB, Lagier-Tourenne C, Schuelke M, Salviati L, Carozzo R, Santorelli F, Rahman S, Tazir M, Koenig M, DiMauro S, Hirano M (2010) Reactive oxygen species, oxidative

- stress, and cell death correlate with level of CoQ10 deficiency. *FASEB J.* 24, 3733–3743.
- 44-Ben-Meir A, Burstein E, Borrego-Alvarez A, Chong J, Wong E, Yavorska T, et al. Coenzyme Q10 restores oocyte mitochondrial function and fertility during reproductive aging. *Aging Cell* 2015; 14:887–95.
- 45-Bentov Y, Hannam T, Jurisicova A, Esfandiari N, Casper RF. Coenzyme Q10 supplementation and oocyte aneuploidy in women undergoing IVF-ICSI treatment. *Clin Med Insights Reprod Health* 2014; 8:31–6.
- 46-Turi A, Giannubilo SR, Bruge F, Principi F, Battistoni S, Santoni F, Tranquilli AL, Littarru G, Tiano L (2012) Coenzyme Q10 content in follicular fluid and its relationship with oocyte fertilization and embryo grading. *Arch. Gynecol. Obstet.* 285, 1173–1176.
- 47-Akarsu S, Gode F, Isik AZ, Dikmen ZG, Tekindal MA. The association between coenzyme Q10 concentrations in follicular fluid with embryo morphokinetics and pregnancy rate in assisted reproductive techniques. *J Assist Reprod Genet.* 2017 May;34(5):599-605. doi: 10.1007/s10815-017-0882-x. Epub 2017 Feb 9. Erratum in: *J Assist Reprod Genet.* 2017 May;34(5):607.
- 48-Noia G, Littarru GP, De Santis M, Oradei A, Mactromarino C, Trivellini C, Caruso A (1996) Coenzyme Q10 in pregnancy. *Fetal Diagn. Ther.* 11, 264–270.
- 49-Samimi M, Zarezade Mehrizi M, Foroozanfard F, Akbari H, Jamilian M, Ahmadi S, Asemi Z. The effects of coenzyme Q10 supplementation on glucose metabolism and lipid profiles in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial. *Clin Endocrinol (Oxf).* 2017 Apr;86(4):560-566.
- 50-El Refaeey A, Selem A, Badawy A. Combined coenzyme Q10 and clomiphene citrate for ovulation induction in clomiphene-citrate-resistant polycystic ovary syndrome. *Reprod Biomed Online.* 2014 Jul;29(1):119-24.
- 51-Taner G, Aydın S, Aytaç Z, Başaran AA, Başaran N. Assessment of the cytotoxic, genotoxic, and antigenotoxic potential of Pycnogenol® in in vitro mammalian cells. *Food Chem Toxicol.* 2013 Nov;61: 203-8.
- 52-Belcaro G, Cesarone MR, Rohdewald P, et al. Prevention of venous thrombosis and thrombophlebitis in long haul flights with pycnogenol. *Clin Appl Thromb Hemost.* 2004;10:373–377.
- 53-Schafer A, Chovanova Z, Muchova J, et al. Inhibition of Cox-1 and Cox-2 activity by plasma of human volunteers after ingestion of French maritime pine bark extract (Pycnogenol). *Biomed Pharmacother.* 2006; 60:5–9.
- 54-Maia H Jr, Haddad C, Casoy J. Combining oral contraceptives with a natural nuclear factor-kappa B inhibitor for the treatment of endometriosis-related pain. *Int J Womens Health.* 2013 Dec 21;6: 35-9.
- 55- Saliou C, Rimbach G, Moini H, et al. Solar ultraviolet-induced erythema in human skin and nuclear factor-kappa B-dependent gene expression in keratinocytes are modulated by French maritime pine bark extract. *Free Radic Biol Med.* 2001; 30:154–160.
- 56-Kohama T, Herai K, Inoue M. Effect of French maritime pine bark extract on endometriosis as compared with leuporelin acetate. *J Reprod Med.* 2007 Aug;52(8):703-8.

- 57-Harikumar KB, Aggarwal BB. Resveratrol: a multitargeted agent for age-associated chronic disease. *Cell Cycle*. 2008; 7:1020–1035.
- 58-Jiang H, Shang X, Wu H, et al. Resveratrol downregulates PI3K/Akt/mTOR signaling pathways in human U251 glioma cells. *J Exp Ther Oncol*. 2009;8(1):25.
- 59-Ortega I, Duleba AJ. Ovarian actions of resveratrol. *Ann N Y Acad Sci*. 2015 Aug;1348(1):86-96.
- 60-Civitarese AE, Carling S, Heilbronn LK, Hulver MH, Ukropcova B, Deutsch WA, et al; CALERIE Pennington Team. Calorie restriction increases muscle mitochondrial biogenesis in healthy humans. *PLoS Med* 2007;4: e76.
- 61-Itami N, Shirasuna K, Kuwayama T, Iwata H. Resveratrol improves the quality of pig oocytes derived from early antral follicles through sirtuin 1 activation. *Theriogenology*. 2015 May;83(8):1360-7.
- 62-Said RS, El-Demerdash E, Nada AS, Kamal MM. Resveratrol inhibits inflammatory signaling implicated in ionizing radiation-induced premature ovarian failure through antagonistic crosstalk between silencing information regulator 1 (SIRT1) and poly(ADP-ribose) polymerase 1 (PARP-1). *Biochem Pharmacol*. 2016 Mar 1;103: 140-50.
- 63-Liu M, Yin Y, Ye X, Zeng M, Zhao Q, Keefe DL, et al. Resveratrol protects against age-associated infertility in mice. *Hum Reprod* 2013; 28: 707–17.
- 64-Hamdan M, Jones KT, Cheong Y, Lane SI. The sensitivity of the DNA damage checkpoint prevents oocyte maturation in endometriosis. *Sci Rep*. 2016 Nov14; 6:36994.
- 65-Bruner-Tran KL, Osteen KG, Taylor HS, Sokalska A, Haines K, Duleba AJ. Resveratrol inhibits development of experimental endometriosis in vivo and reduces endometrial stromal cell invasiveness in vitro. *Biol Reprod*. 2011 Jan;84(1):106-12.
- 66-Ergenoğlu AM, Yeniel AÖ, Erbaş O, Aktuğ H, Yildirim N, Ulukuş M, Taskiran D. Regression of endometrial implants by resveratrol in an experimentally induced endometriosis model in rats. *Reprod Sci*. 2013 Oct;20(10):1230-6.
- 67-P. Ozcan Cenksoy, M. Oktem, O. Erdem, C. Karakaya, C. Cenksoy, A. Erdem, H. Guner, O. Karabacak, A potential novel treatment strategy: inhibition of angiogenesis and inflammation by resveratrol for regression of endometriosis in an experimental rat model, *Gynecol. Endocrinol*. 31 (3) (2015) 219–224.
- 68-Yavuz S, Aydin NE, Celik O, Yilmaz E, Ozerol E, Tanbek K. Resveratrol successfully treats experimental endometriosis through modulation of oxidative stress and lipid peroxidation. *J Cancer Res Ther*. 2014 Apr-Jun;10(2):324-9.
- 69-Kolahdouz Mohammadi R, Arablou T. Resveratrol and endometriosis: In vitro and animal studies and underlying mechanisms (Review). *Biomed Pharmacother*. 2017 Jul; 91:220-228.
- 70-Wong DH, Villanueva JA, Cress AB, Duleba AJ. Effects of resveratrol on proliferation and apoptosis in rat ovarian theca-interstitial cells. *Mol Hum Reprod* 2010; 16: 251–9.
- 71-Ortega I, Villanueva JA, Wong DH, Cress AB, Sokalska A, Stanley SD, et al. Resveratrol reduces steroidogenesis in rat ovarian theca-interstitial cells: the role of inhibition of Akt/PKB signaling pathway. *Endocrinology* 2012; 153:4019–29.

- 72-Cabello E, Garrido P, Morán J, González del Rey C, Llaneza P, Llaneza-Suárez D, Alonso A, González C. Effects of resveratrol on ovarian response to controlled ovarian hyperstimulation in ob/ob mice. *Fertil Steril*. 2015 Feb;103(2):570-9. e1.
- 73-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 Aug;22(8):942-7.