Tame the Flames of PCOS: a unique integrative approach

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Speaker Disclosure

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Lecture Overview

• What is Polycystic Ovary Syndrome?
• What are the symptoms and manifestations of PCOS?
• How do you diagnose it?
• What is wrong with the conventional approach to treating PCOS?
• What is the integrative approach to treating PCOS?
• What lies ahead for PCOS women?
Polycystic Ovary Syndrome (PCOS)

A hormonal disorder, becoming obvious after puberty, in women of reproductive age - Named for the finding of small cysts developing in the outer edge of each ovary.

PCOS is a global epidemic

- The most common endocrine dysfunction of women - affects up to 25% of women
- A life-long disease with enormous medical, emotional, and financial consequences
- High risk for diabetes, metabolic syndrome, & infertility…and 80% are overweight/obese
- Affects women of all ages…actually manifests in childhood, and also affects relatives and men!
Hormonal/Reproductive Effects of PCOS

- Abnormal hormone receptors
- Hyperandrogenism
- Acne
- Hirsutism, alopecia
- Chronic anovulation
- Polycystic ovaries
- Infertility
- Pregnancy complications
- Low libido and sexual problems

PCOS
Metabolic Effects of PCOS

- Insulin Resistance
- Hyperinsulinemia
- Impaired Glucose Tolerance
- Fatty Liver
- Dyslipidemia
- Endothelial Dysfunction
- Visceral Obesity
- Hypertension
- Overweight/Obese

Use of fasting blood to assess the prevalence of insulin resistance in women with polycystic ovary syndrome. (2004) Fertil. Steril
Association of PCOS with other inflammatory-related conditions

- Autoimmune disease (especially thyroid)
- Skin tags and darkened skin (acanthosis nigricans)
- Gastrointestinal problems (IBS, leaky gut)
- Arthritis and tendinitis
- Depression, anxiety, stress
- Vaginal infections
- Sleep dysfunction and OSA
- Cancer
New ideas on the causes of PCOS

• Complex interaction between genetics and the environment (epigenetics)
• Exposure to endocrine disruptors
• Abnormal hormone receptor functioning
• Oxidative stress beginning in-utero
• Gut inflammation and systemic inflammation
• Prenatal hormonal fluctuations within the womb

Dysbiosis of Gut Microbiota

- Poor diet leads to gut mucosal permeability
- Passage of lipopolysaccharides from Gram negative colonic bacteria into systemic circulation
- Activation of the immune system with release of inflammatory cytokines-interferes with insulin receptor function, increases ovarian production of androgens and alters normal follicle development
Bisphenol A (BPA)

• Widespread industrial compound used in the synthesis of polycarbonate plastics
• Found in cash register receipts, plastic bottles, can liners, dental sealants, airline boarding passes
• In experimental animals, neonatal exposure results in a PCOS-like syndrome in adulthood

EHP Sept. 2010. Bisphenol A exposure during pregnancy disrupts glucose homeostasis
Bisphenol A and PCOS

• Reduces number of oocytes and lowers successful number of births

• Creates major and permanent changes in gene expression-differences only apparent after estrogen exposure

• Affects the estrogen receptors-alpha, beta, cell membrane

• Negatively affects mitochondrial function

Neuroscience May 2010. Corticosterone regulated actions in the rat brain are affected by perinatal exposure to low dose bisphenol A

EHP Sept 2010. Neonatal exposure to bisphenol A and reproductive and endocrine alterations resembling the polycystic ovarian syndrome in adult rats
Estrogen deficiency and chronic inflammation

- Estrogen is the master of metabolic homeostasis
- BPA alters estrogen receptor function
- BPA alters estrogen production and function, along with progesterone production, melatonin receptor function, and thyroid receptor function

Molecular Endocrinology. June 2012. Minireview: Metabolism of Female Reproduction
Oxidative stress and inflammation are driving risk!
Inflammatory Laboratory Tests

- F2-Isoprostanes
- Oxidized LDL
- Hs CRP
- Myeloperoxidase
- PLAC
- Adiponectin
- Homocysteine
- Micro-albumin
- TELOMERES
Additional testing

- Apo A1 and B
- TSH, Free T3, Free T4
- Anti-TPO, TGB Ab
- Insulin, 2 hr OGTT
- Uric Acid
- 25 OH Vitamin D
- B12
- Omega 3 Index
- DHEA-S
- Testosterone
- Estradiol
- Progesterone
- SHBG
- Anti-Mullerian Hormone
- FSH and LH
- MTHFR
Conventional treatment options

• There are problems with some of the most commonly used pharmaceuticals for PCOS
• Oral Contraceptives—gut health, blood clotting, CVD risk
• Metformin—gut health, B12 levels, an endocrine disruptor, marginal fertility agent
• Accutane—depression, IBS, works in 1/3 long term
• Antibiotics—alters the foundational microbiome
• Bariatric surgery—nutritional deficiencies
An integrative approach works best!

PCOS patient

- Gynecology
- Naturopathy
- Lifestyle educator

Internal Medicine Practitioner
TCM Practitioner/Acupuncturist
Aesthetician, Fitness Trainer
CBT/Hypnotherapist
Stress reduction/Meditation/Guided imagery
Therapeutic massage therapist/Aromatherapy
Vascular, pelvic and abdominal US technicians
A practical approach to the PCOS patient

- Detailed history and physical exam
- Laboratory testing-inflamatory markers, hormones, metabolic markers, nutritional and gut health status
- Lifestyle changes: Nutrition, stress, sleep (check for OSA), exercise, acupuncture, guided imagery, hypnosis, massage, CBT
- Supplements: Berberine, Myo-inositol, NAC, Green Tea, Resveratrol, Spearmint tea, Alpha Lipoic Acid, Probiotics, Chromium, Methylated B Complex, Vitamin D+K2, Detox and gut support,
- Necessary pharmaceuticals
- Skincare, emotional support, “Earthing”
- Bio-identical hormones, (Rhythmic Hormones)
Nutrition to support the gut microbiome

• All “real” foods and organics-no GMO, antibiotics, hormones, pesticides, preservatives, high fructose corn syrup, artificial anything

• Resistant starch vegetables: root vegetables, beets, turnips, yams, rutabagas, parsnips carrots, radishes

• Cruciferous vegetables and Leafy greens

• Berries, tart apples, pomegranates

• Low protein (limit animal protein and highest quality-only “wild” style)

• Healthy fats only and not too much!
Secrets to health for PCOS women

• Intermittent fasting options
• Breakfast at 2/3 of calories, lunch 1/3, no more than 100 calories for dinner
• Fiber supports the microbiome...fat does not
• Fermented foods
• Limit dairy, no sweets, no wheat (gluten), no GMO, no processed foods
Integrative approach: Nutraceuticals

- Resveratrol
- Green tea
- Alpha Lipoic Acid
- Chromium
- Berberine
- N-acetyl cysteine
- Myo-inositol
Additional supplements

- Vitamin D+K2
- Omega 3/Krill Oil
- Multivitamin with iodine
- Nutraceuticals for weight loss
- Spearmint tea
- Grape seed extract
- Ashwaganda, Rhodiola, Holy Basil, Ginseng
Detoxification Protocol

- Herbs to support liver detoxification pathways
- L glutamine
- Aloe Vera
- Chlorella
- Psyllium fiber, Flaxseed
- Probiotic blend
- Amino acids, Sulforaphane, DIM
- Calcium D glucarate, Mild thistle
Stress reduction—an essential element

- Guided imagery
- Aromatherapy
- Cognitive Behavioral Therapy
- Hypnotherapy
- Transcendental Meditation
- Mindfulness Meditation
- Yoga
Fitness

• Fitness assessment and Exercise prescription
• Start slowly—avoid injury
• 2008 Guidelines from the American College of Sport’s Medicine: 150 minutes per week of moderate intensity aerobic exercise and 2-3 sessions of resistance training
• Work towards high intensity interval training
Sleep-the essential ingredient

• At least a 50% chance each patient has sleep apnea
• Many have sleep disturbances
• Circadian rhythms malfunctioning
• Melatonin less responsive
Rhythmic hormone therapy re-establishes the hormonal milieu needed for proper cellular signaling and to overcome the dysfunction of the receptors.

Goal: Re-establish metabolic homeostasis

Possibly the Ultimate Solution!
Concerns for the future

- PCOS is a global epidemic effecting 25% women (and men)

- Essential to obtain proper testing so as to properly diagnose, monitor, and treat

- Conventional therapies are limited and not curative; some have significant risks

- Prevention for future generations a grave concern- endocrine disruptors are ubiquitous and nearly unavoidable

An Integrative approach to treating this epidemic is the best approach!!
Thank You!

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