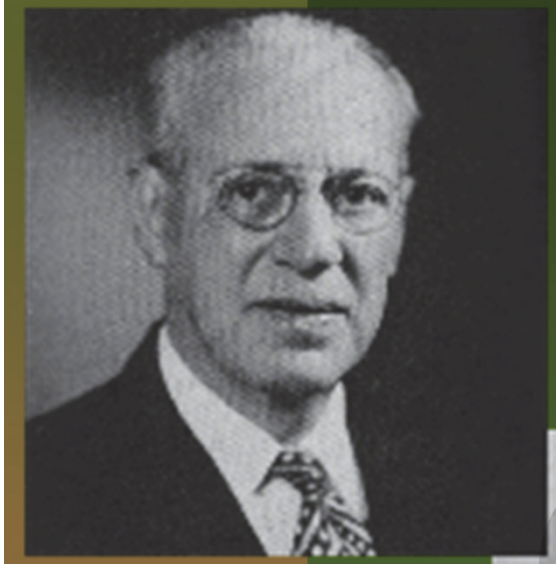
KAPOSI MÓR OKTATÓ KÓRHÁZ
SOMOGY MEGYE KAPOSVÁR
ALAPÍTVA 1846

A PCOS diagnosztikai kritériumai és kezelési elvei

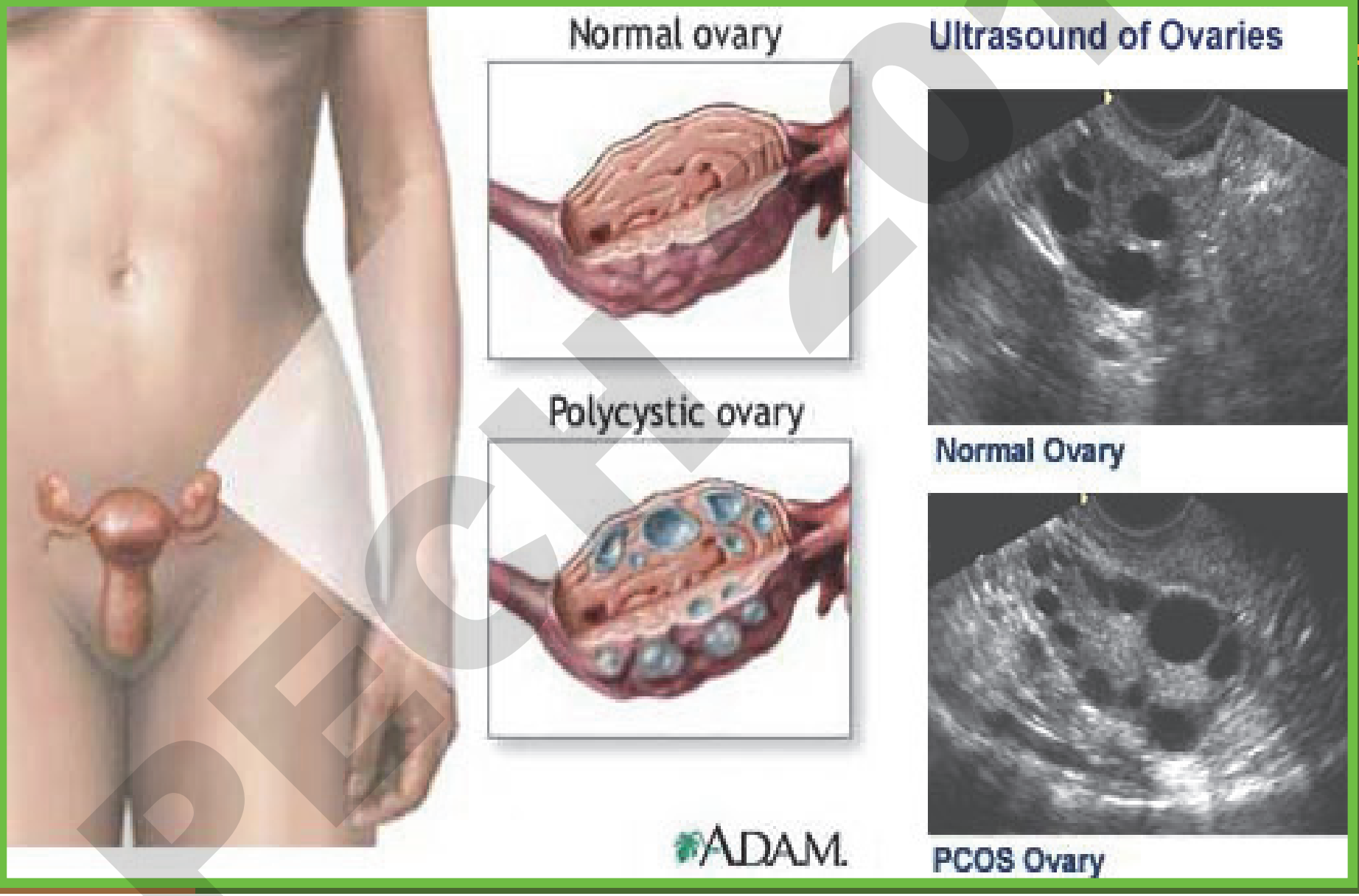
Prof. Dr. Szilágyi András

A PCOS első leírása



Stein IF, Leventhal ML.
Amenorrhea associated with bilateral polycystic ovaries.
Am J Obstet Gynecol 1935; 29: 181-910

Diagnózis



Valisnere 1721

- „Young married peasant women, moderately obese, and infertile with two larger than normal ovaries, bumpy, shiny and whitish, just like pigeon eggs”

ASZSZONY' ORVOS,

MELLYBEN

A' SZŰZEKNEK, A' HÁZAS, TERHES, SZŰLŐ, SZÜLT, ÉS KOROS ASZSZONYOKNAK NYAVALYÁIK ADATTATNAK ELŐ.

IRTA

ZSÓLDOS JÁNOS

ORVOS DOKTOR.

A' Jénai Phyſica és Mineralogica Társaságoknak Tagja, Tek. Veſzprém Vármegyének Honor. Phyſicusa.

GYŐRBEN,

STREIBIG JÓ'SEF' BETŰIVEL,

1802.

18. Oka a' magtalanságnak a' méh tömött ſzövése, portzogó keménysége, melly miatt izgathatatlan lévén nem fogad, vagy ha fogad-is, de a' méhmagzat növén nem terjed annyira, a' mennyire kellene, és így a' méhmagzatnak idő előtt el kell menni. Ez a' fogyatkozás magába ritkán vagyon, hanem többnyire edgyütt jár az egéſz teſtnek erős, izmos, tsontos, tömött húsú, Férjfiúi termetével, a' kik Férjfiaſzſzonyoknak (Viragines.) neveztetnek. Többnyire derék, katonás termetűek, és barnák ſzoktak lenni, vaſtag erős ſzavúak, kebelek ha tsak nem kövérek lapos, tsetseik kitsiny, kemény, teſtek ſzőrös, sőt tetzhető bajuſzſzaik-is vannak, ſzemérem teſtekre nézve hasonlók a' még tiſztuſlást nem

ſzen-

A PCOS definíciója
NIH 1990
(Zawadzki JK, Dunaif A, 1992)

- Anovulatio
- A hyperandrogenaemia klinikai vagy biokémiai jelei
- PCO ultrahang jelei nem szükségesek

A PCOS definíciója

Rotterdam consensus workshop, 2003 (Fertil Steril 2004, 81, 19)

- Oligomenorrhoea és/vagy anovulatio
- A hyperandrogenaemia klinikai vagy biokémiai jelei
- PCO ultrahang jele (12-nél több 2-7 mm folliculus, volumen>10 ccm, ovarialis stroma aránya >0,34)
- A fenti kritériumok közül 2 megléte PCOS-t jelent
- Egyéb okok kizárása

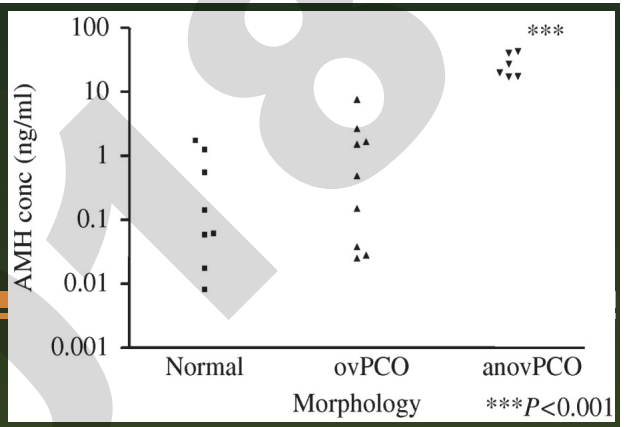
A PCOS definíciója
AEPCOS Society 2006
(Azziz R et al., Fertil Steril 2009, 91,456)

- A hyperandrogenaemia klinikai és/vagy biokémiai jelei a PCOS sine qua non-ja
- A második kritérium vagy a krónikus anovulatio, vagy a PCO ultrahang képe

PCOS potenciális új markerei

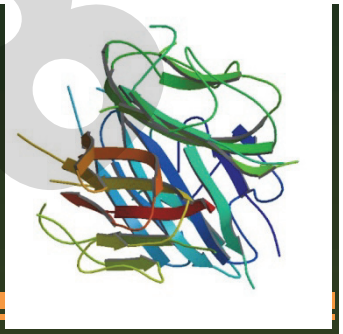
- AMH
- Adipokinek: leptin, resistin, visfatin, adiponektin, chemerin
- mikroRNS-ek
- PSA
- proteomika
  - CRP
  - TNF-α
  - Interleukin-6

AMH(Anti-Müllerian Hormone)



- Az antralis follikulus szám fontos markere
- Predictív értéke van az ovulatio inductioban, ill. IVF esetén az eredményességi rátában
- Diagnosztikus határérték PCOS-ben: 6,8 ng/ml? 10 ng/ml?,
- 3,4 ng/ml felett clomifén rezisztencia?

Adipokinek



- PCOS-ban a viscerális zsír morfológiailag és funkcionálisan is kóros.
  - Leptin: PCOS-ban a magas szintje (>7 ng/ml) korrelál a BMI-vel és a hyperinzulinaemiával.
  - Adiponectin: inzulin érzékenységet fokozza. PCOS-ben a szintje alacsony (‹10 ug/ml), a hyperandrogenaemiával korrelál

Prosztata specifikus antigén (PSA) és PCOS

- PSA a prosztatán kívül az emlőben, endometriumban, ovariumban is termelődik
- A PSA PCOS-ban magasabb (>0,07 ng/ml), korrelál az LH/FSH aránnyal, tesztoszteron, DHEAS szinttel, obezitással, hirsutizmussal
- Antiandrogén kezelés (flutamid) csökkenti a PSA-t

AACE/ACE Disease State Clinical Review

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS, AMERICAN COLLEGE OF ENDOCRINOLOGY, AND ANDROGEN EXCESS AND PCOS SOCIETY DISEASE STATE CLINICAL REVIEW: GUIDE TO THE BEST PRACTICES IN THE EVALUATION AND TREATMENT OF POLYCYSTIC OVARY SYNDROME – PART 1

Neil F. Goodman, MD, FACE[1]; Rhoda H. Cobin, MD, MACE[2]; Walter Futterweit, MD, FACP, FACE[3]; Jennifer S. Glueck, MD[4]; Richard S. Legro, MD, FACOG[5]; Enrico Carmina, MD[6]

EXECUTIVE SUMMARY

Polycystic Ovary Syndrome (PCOS) is recognized as the most common endocrine disorder of reproductive-aged women around the world. This document, produced by the collaboration of the American Association of Clinical Endocrinologists (AACE) and the Androgen Excess and PCOS Society (AES) aims to highlight the most important clinical issues confronting physicians and their patients with PCOS. It is a summary of current best practices in 2015.

- PCOS has been defined using various criteria, including menstrual irregularity, hyperandrogenism, and polycystic ovary morphology (PCOM).

General agreement exists among specialty society guidelines that the diagnosis of PCOS must be based on the presence of at least two of the following three criteria: chronic anovulation, hyperandrogenism (clinical or biological) and polycystic ovaries.

- There is need for careful clinical assessment of women's history, physical examination, and laboratory evaluation, emphasizing the accuracy and validity of the methodology used for both biochemical measurements and ovarian imaging.

Free testosterone (T) levels are more sensitive than the measurement of total T for establishing the existence of androgen excess and should be ideally determined through equilibrium dialysis techniques. Value of measuring levels of androgens other than T in patients with PCOS is relatively low.

New ultrasound machines allow diagnosis of PCOM in patients having at least 25 small follicles (2 to 9 mm) in the whole ovary. Ovarian size at 10 mL remains the threshold between normal and increased ovary size.

Serum 17-hydroxyprogesterone and anti-Müllerian hormone are useful for determining a diagnosis of PCOS.

- Correct diagnosis of PCOS impacts on the likelihood of associated metabolic and cardiovascular risks and leads to appropriate intervention, depending upon the woman's age, reproductive status, and her own concerns. The management of women with PCOS should include reproductive function, as well as the care of hirsutism, alopecia, and acne.

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DOI: 10.4158/EP15748.DSC

*The opinions represented in the **AACE/ACE Disease State Clinical Review: Guide to the Best Practices in the Evaluation and Treatment of Polycystic Ovary Syndrome** are the expressed opinions of the Reproductive Endocrinology Scientific Committee of the American Association of Clinical Endocrinologists and the Androgen Excess and PCOS Society. AACE/ACE Disease State Clinical Reviews are systematically developed documents written to assist health care professionals in medical decision making for specific clinical conditions, but are in no way a substitute for a medical professional's independent judgment and should not be considered medical advice. Most of the content herein is based on literature reviews. In areas of uncertainty, professional judgment of the authors was applied.*

This review article is a working document that reflects the state of the field at the time of publication. Because rapid changes in this area are expected, periodic revisions are inevitable. We encourage medical professionals to use this information in conjunction with, and not a replacement for, their best clinical judgment. The presented recommendations may not be appropriate in all situations. Any decision by practitioners to apply these guidelines must be made in light of local resources and individual patient circumstances.

Endocrine Society 2013

Diagnosis and Treatment of Polycystic Ovary Syndrome: An Endocrine Society Clinical Practice Guideline

Richard S. Legro, Silva A. Arslanian, David A. Ehrmann, Kathleen M. Hoeger, M. Hassan Murad, Renato Pasquali, and Corrine K. Welt

The Penn State University College of Medicine (R.S.L.), Hershey, Pennsylvania 17033; Children's Hospital of Pittsburgh (S.A.A.), University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania 15224; University of Chicago (D.A.E.), Chicago, Illinois 60637; University of Rochester Medical Center (K.M.H.), Rochester, New York 14627; Mayo Clinic (M.H.M.), Rochester, Minnesota 55905; Orsola-Malpighi Hospital, University Alma Mater Studiorum, (R.P.), 40126 Bologna, Italy; and Massachusetts General Hospital (C.K.W.), Boston, Massachusetts 02114

Objective: The aim was to formulate practice guidelines for the diagnosis and treatment of polycystic ovary syndrome (PCOS).

Participants: An Endocrine Society-appointed Task Force of experts, a methodologist, and a medical writer developed the guideline.

Evidence: This evidence-based guideline was developed using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) system to describe both the strength of recommendations and the quality of evidence.

Consensus Process: One group meeting, several conference calls, and e-mail communications enabled consensus. Committees and members of The Endocrine Society and the European Society of Endocrinology reviewed and commented on preliminary drafts of these guidelines. Two systematic reviews were conducted to summarize supporting evidence.

Conclusions: We suggest using the Rotterdam criteria for diagnosing PCOS (presence of two of the following criteria: androgen excess, ovulatory dysfunction, or polycystic ovaries). Establishing a diagnosis of PCOS is problematic in adolescents and menopausal women. Hyperandrogenism is central to the presentation in adolescents, whereas there is no consistent phenotype in postmenopausal women. Evaluation of women with PCOS should exclude alternate androgen-excess disorders and risk factors for endometrial cancer, mood disorders, obstructive sleep apnea, diabetes, and cardiovascular disease. Hormonal contraceptives are the first-line management for menstrual abnormalities and hirsutism/acne in PCOS. Clomiphene is currently the first-line therapy for infertility; metformin is beneficial for metabolic/glycemic abnormalities and for improving menstrual irregularities, but it has limited or no benefit in treating hirsutism, acne, or infertility. Hormonal contraceptives and metformin are the treatment options in adolescents with PCOS. The role of weight loss in improving PCOS status per se is uncertain, but lifestyle intervention is beneficial in overweight/obese patients for other health benefits. Thiazolidinediones have an unfavorable risk-benefit ratio overall, and statins require further study. **(*J Clin Endocrinol Metab* 98: 4565–4592, 2013)**

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Abbreviations: BMI, body mass index; CI, confidence interval; DM, diabetes mellitus, HC, hormonal contraceptive; HDL, high-density lipoprotein; HgbA1c, hemoglobin A1c, IGT, impaired glucose tolerance; IR, insulin resistance; IVF, in vitro fertilization; LDL, low-density lipoprotein; NAFLD, nonalcoholic fatty liver disease; NASH, nonalcoholic steatohepatitis; OGTT, oral glucose tolerance test; 17-OHP, 17-hydroxyprogesterone; OHSS, ovarian hyperstimulation syndrome; OR, odds ratio; OSA, obstructive sleep apnea; PCO, polycystic ovary (or ovaries); PCOS, polycystic ovary syndrome; RR, relative risk; T2DM, type 2 DM.

The polycystic ovary syndrome: a position statement from the European Society of Endocrinology

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Abstract

Polycystic ovary syndrome (PCOS) is the most common ovarian disorder associated with androgen excess in women, which justifies the growing interest of endocrinologists. Great efforts have been made in the last 2 decades to define the syndrome. The presence of three different definitions for the diagnosis of PCOS reflects the phenotypic heterogeneity of the syndrome. Major criteria are required for the diagnosis, which in turn identifies different phenotypes according to the combination of different criteria. In addition, the relevant impact of metabolic issues, specifically insulin resistance and obesity, on the pathogenesis of PCOS, and the susceptibility to develop earlier than expected glucose intolerance states, including type 2 diabetes, has supported the notion that these aspects should be considered when defining the PCOS phenotype and planning potential therapeutic strategies in an affected subject. This paper offers a critical endocrine and European perspective on the debate on the definition of PCOS and summarises all major aspects related to aetiological factors, including early life events, potentially involved in the development of the disorder. Diagnostic tools of PCOS are also discussed, with emphasis on the laboratory evaluation of androgens and other potential biomarkers of ovarian and metabolic dysfunctions. We have also paid specific attention to the role of obesity, sleep disorders and neuropsychological aspects of PCOS and on the relevant pathogenetic aspects of cardiovascular risk factors. In addition, we have discussed how to target treatment choices based according to the phenotype and individual patient's needs. Finally, we have suggested potential areas of translational and clinical research for the future with specific emphasis on hormonal and metabolic aspects of PCOS.

European Journal of Endocrinology
(2014) 171, P1–P29

European Journal of Endocrinology

www.eje-online.org
DOI: 10.1530/EJE-14-0253

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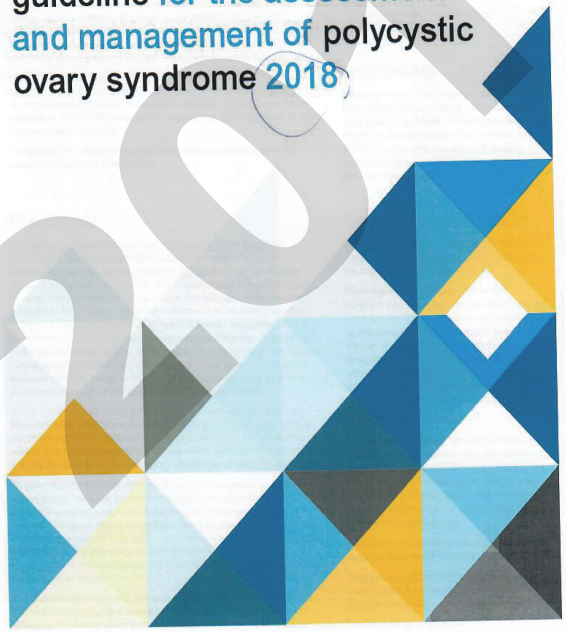
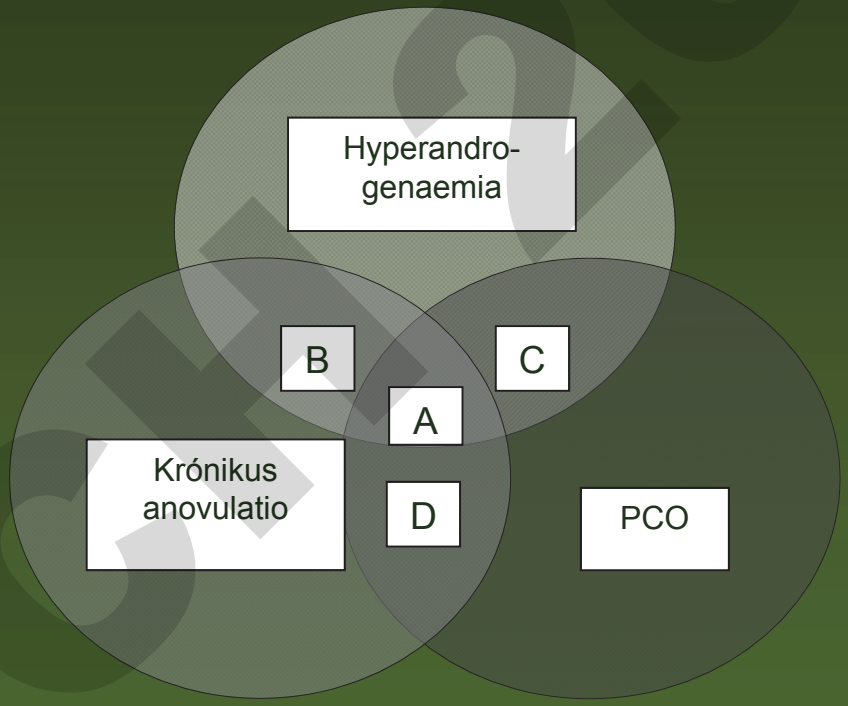
International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018



CREPCOS Centre for Research Excellence in Polycystic Ovary Syndrome · MONASH University · asrm · eshre

A PCOS fenotípusai
3. Rotterdam PCOS Consensus, 2011



A PCOS fenotípusok gyakorisága

- A típus (hyperandrogenaemia, krónikus anovulatio, PCO): 44-65%
- B típus (hyperandrogenaemia, krónikus anovulatio): 8-33%
- C típus (hyperandrogenaemia, PCO): 3-29%
- D típus (krónikus anovulatio, PCO): 11-23%

A hyperandrogenaemia rizikói

- Dyslipidaemia
- Atherosclerosis
- Myocardialis infarctus
- Thrombosis
- Szénhidrát anyagcsere zavarai (insulin rezisztencia, 2-es typ. diabetes mellitus)
- Emlő és endometrium dysplasia illetve carcinoma

Metabolikus syndroma ill. IR gyakorisága PCOS fenotípusokban (J Hum Reprod Sci 2013,6, 194)

- Metabolikus syndroma 35%
  - Hyperandrogén fenotípusokban 50%
  - Normoandrogén fenotípusban 10%
- IR (>3,8) gyakorisága 30,4%
  - Klasszikus (A) fenotípus 31,5%
  - B típus 35%
  - D típus 21% (normoandrogén)

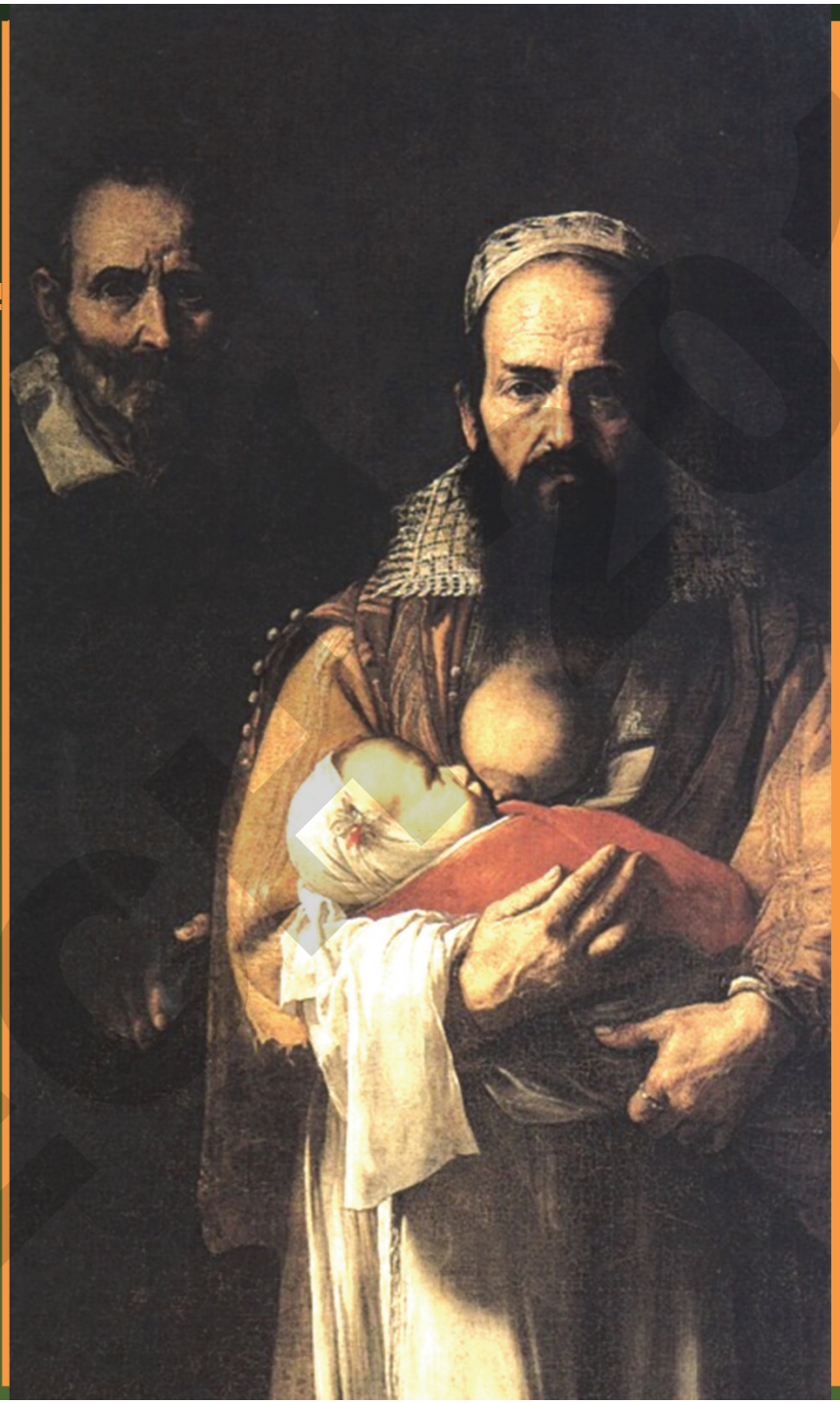
A fenotípusok nőgyógyászati jelentősége

- A krónikus anovuláció (A,B,D) a meddőség legjelentősebb oka PCOS-ban
- A meddőségben a hyperandrogenaemia (C) kevésbé jelentős
- A hyperandrogenaemia kozmetikai jelentőségű is

„Leginkább,
még nők lehettek, de szakállatok
Gyanúmra cáfol.”

Shakespeare: Macbeth

Frida Kahlo
önarckép



Jose Ribera: Magdalena Ventura (1631)

Meddőség kezelése PCOS-ban

- Életmódi tényezők, testsúly csökkentés
- Ovulatio inductio
  - Clomifén citrát (Letrozol)
  - FSH készítmények
  - Inzulin érzékenységet fokozó szerek (metformin, myo-inozitol)
  - Sebészi kezelés (laparoscopos drilling)

PCOS-ban a metabolikus, ill egyéb rizikó prevenciója, kezelése

- Életmódváltás (terápiás életmód menedzsment)
- Gyógyszeres kezelés (metformin): diabetes szempontjából magas kockázatú, obez betegeknél, akikhez az előzetes GDM és PCOS is tartozik
- PCOS kezelésére is: Adimet 500, 850mg
- A metformin előnyös a cardio-metabolikus zavarok kezelésére (anti-atherogenetikus és anti-inflamatorikus hatás)

Összefoglalás

- A PCOS diagnosztikájában a Rotterdami kritériumokon túl a fenotípusok elkülönítése, a hyperandrogenaemia fokának meghatározása egyre jelentősebb.
- PCOS-ban a hormonális változások (hyperandrogenaemia), az inzulin rezisztencia (IR) valamint a metabolikus szindróma elemeinek megléte egymást erősítő tényezők.
- A hyperandrogen PCOS fenotípusok a rosszabb prognózisúak, nem csak kozmetikai probléma
- A meddőség szempontjából a krónikus anovulatio és az obesitas a jelentős, a hyperandrogenaemia kevésbé

Köszönöm a figyelmet