

## FROM THE EDITORS

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## VIEWS AND REVIEWS

### 4 Introduction: Contemporary perspectives on congenital adrenal hyperplasia: impacts on reproduction

M. I. New and Z. Rosenwaks  
*New York, New York*

In this Views and Reviews, we present four perspectives on current diagnostic approaches and treatments for congenital adrenal hyperplasia.

### 7 Classic congenital adrenal hyperplasia and its impact on reproduction

L. G. Gomes, T. A. S. S. Bachega, and B. B. Mendonça  
*São Paulo, Brazil*

The fertility rate in women with virilizing forms of congenital adrenal hyperplasia is lower than in the general population owing to a lower desire for achieving motherhood.

### 13 Fertility in patients with nonclassical congenital adrenal hyperplasia

M. I. New, L. Ghizzoni, H. Meyer-Bahlburg, A. Khattab, D. Reichman, and Z. Rosenwaks  
*New York, New York; and Turin, Italy*

We discuss the history of nonclassical congenital adrenal hyperplasia as well as the pathophysiology, diagnosis, and treatment of the disorder.

### 21 Prenatal genetic testing and treatment for congenital adrenal hyperplasia

J. L. Simpson and S. Rechitsky  
*Miami, Florida; and Northbrook, Illinois*

In utero treatment of 21-hydroxylase congenital adrenal hyperplasia by dexamethasone prevents genital ambiguity in affected females. Noninvasive detection is now possible, and preimplantation genetic testing allows selection of only unaffected embryos.

### 24 Genetics of congenital adrenal hyperplasia and genotype-phenotype correlation

M. L. Narasimhan and A. Khattab  
*New York, New York; and New Brunswick, New Jersey*

The mechanisms leading to CYP21A2 gene defects are gene conversion and deletions. The well-established correlation between CYP21A2 mutations and the associated clinical phenotype remains subject to some discordances.

## INKLINGS

### 30 At last, an orally active gonadotropin-releasing hormone antagonist

R. J. Paulson  
*Los Angeles, California*

## ASRM PAGES

### 32 Prepregnancy counseling

Committee Opinion No. 762  
*Birmingham, Alabama; and Washington, D.C.*

The goal of prepregnancy care is to reduce the risk of adverse health effects for the woman, fetus, and neonate by working with the woman to optimize health, address modifiable risk factors, and provide education about healthy pregnancy.

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## REFLECTIONS

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*Houston, Texas; and Salt Lake City, Utah*
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H. Ferrero  
*Valencia, Spain*

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- 60 **Original investigations into the clearance of spermatozoa after vasectomy**  
M. Kathrins  
*Boston, Massachusetts*

## ORIGINAL ARTICLES

### ANDROLOGY

- 61 **Fine mapping the MHC region identified rs4997052 as a new variant associated with nonobstructive azoospermia in Han Chinese males**  
M. Huang, M. Zhu, T. Jiang, Y. Wang, C. Wang, G. Jin, X. Guo, J. Sha, J. Dai, X. Wang, and Z. Hu  
*Nanjing, People's Republic of China*  
Fine-mapping analysis of MHC region with 981 nonobstructive azoospermia (NOA) patients and 1,657 controls identified two potentially functional variants, rs7194 and rs4997052, associated NOA susceptibility.

### ASSISTED REPRODUCTION

- 69 **Transfer of embryos with segmental mosaicism is associated with a significant reduction in live-birth rate**  
T. Zore, L. L. Kroener, C. Wang, L. Liu, R. Buyalos, G. Hubert, and M. Shamoni  
*Los Angeles, Thousand Oaks, and Agoura Hills, California*  
Transfer of segmental mosaic compared with euploid embryos results in a reduced live birth.
- 77 **Deoxyribonucleic acid detection in blastocoelic fluid: a new predictor of embryo ploidy and viable pregnancy**  
M. C. Magli, C. Albanese, A. Crippa, C. Tabanelli, A. P. Ferraretti, and L. Gianaroli  
*Bologna, Italy*  
The presence of DNA in blastocoelic fluids negatively correlates with the blastocyst ploidy condition defined by trophectoderm cell biopsy and with the implantation potential of trophectoderm-euploid blastocysts.

**Autologous mitochondrial transfer as a complementary technique to intracytoplasmic sperm injection to improve embryo quality in patients undergoing in vitro fertilization—a randomized pilot study**

E. Labarta, M. J. de los Santos, S. Herraiz, M. J. Escribá, A. Marzal, A. Buigues, and A. Pellicer  
*Valencia, Spain; and Rome, Italy*

In patients with a background of low embryo quality, autologous mitochondrial transfer did not improve the pregnancy outcome or the blastocyst formation or euploid embryo rate compared with conventional ICSI.

**Effect of in vitro culture period on birth weight after vitrified-warmed transfer cycles: analysis of 4,201 singleton newborns**

J. Zhang, Y. Wang, H. Liu, X. Mao, Q. Chen, Y. Fan, Y. Xiao, and Y. Kuang  
*Shanghai, People's Republic of China*

Birth weights of singletons following blastocyst transfer were higher than those after cleavage-stage embryo transfer in vitrified-warmed cycles.

**Developmental potential of slow-developing embryos: day-5 morulae compared with day-5 cavitating morulae**

J. Haas, J. Meriano, R. Bassil, E. Barzilay, E. Zilberberg, and R. F. Casper  
*Toronto, Ontario, Canada; and Tel Aviv, Israel*

Transfer of fresh slow-developing embryos seems to improve the cycle outcomes compared with culturing for another day and then vitrifying and thawing later.

## ENVIRONMENT

**Phthalates exposure and uterine fibroid burden among women undergoing surgical treatment for fibroids: a preliminary study**

A. R. Zota, R. J. Geller, A. M. Calafat, C. Q. Marfori, A. A. Baccarelli, and G. N. Moawad  
*Washington, DC; Atlanta, Georgia; and New York, New York*

Some phthalate biomarkers, including di(2-ethyl-hexyl) phthalate metabolites, are positively associated with uterine volume among women undergoing surgery for fibroids. Results support the hypothesis that phthalate exposures are associated with fibroid outcomes.

## EPIDEMIOLOGY

**Links between age at menarche, antral follicle count, and body mass index in African American and European American women**

S. M. Schuh, J. Kadie, M. P. Rosen, B. Sternfeld, R. A. Reijo Pera, and M. I. Cedars  
*Moraga, San Francisco, and Oakland, California; and Bozeman, Montana*

Earlier age of menarche is associated with both higher BMI and higher antral follicle counts in adulthood in both African American and European American women.

## GENETICS

**What are patients doing with their mosaic embryos? Decision making after genetic counseling**



A. G. Besser, D. H. McCulloh, and J. A. Grifo  
*New York, New York*

Patient decisions regarding mosaic-embryo transfer were assessed. More than one-fourth of patients without euploid embryos pursued transfer; those who pursued additional treatment had a greater chance of ongoing pregnancy.

## INFERTILITY

**Self-reported infertility, metabolic dysfunction, and cardiovascular events: a cross-sectional analysis among U.S. women**

J. L. Gleason, E. D. Shenassa, and M. E. Thoma  
*College Park and Baltimore, Maryland; and Providence, Rhode Island*

After adjusting for demographic, lifestyle, and behavioral factors, women who reported ever experiencing infertility had higher odds of reporting symptoms consistent with metabolic syndrome and cardiovascular events.

## MENTAL HEALTH

**Clinical course of depression symptoms and predictors of enduring depression risk in women with polycystic ovary syndrome: Results of a longitudinal study**

E. A. Greenwood, L. A. Pasch, K. Shinkai, M. I. Cedars, and H. G. Huddleston  
*San Francisco, California*

Obesity is a predictor of enduring depression in polycystic ovarian syndrome.

## REPRODUCTIVE ENDOCRINOLOGY

- 157** **Elevation of antimüllerian hormone in women with polycystic ovary syndrome undergoing assisted reproduction: effect of insulin**  
X. Y. Liu, Y. J. Yang, C. L. Tang, K. Wang, J.-J. Chen, X. M. Teng, Y. C. Ruan, and J. Z. Yang  
*Shanghai and Hong Kong, People's Republic of China*  
AMH is elevated in blood and follicular fluid in PCOS during ART. Insulin increases AMH expression, and AMH counteracts insulin-promoted aromatase expression in human luteinized granulosa cells.
- 168** **Metabolic disturbances in non-obese women with polycystic ovary syndrome: a systematic review and meta-analysis**  
S. Zhu, B. Zhang, X. Jiang, Z. Li, S. Zhao, L. Cui, and Z.-J. Chen  
*Jinan and Shanghai, People's Republic of China*  
Nonobese women with PCOS suffer higher risk of metabolic disturbances including insulin resistance, hyperinsulinemia, impaired glucose tolerance, diabetes, dyslipidemia, and metabolic syndrome compared with nonobese controls.

## REPRODUCTIVE SCIENCE

- 178** **Expression of erythropoietin messenger ribonucleic acid in wild-type *MED12* uterine leiomyomas under estrogenic influence: new insights into related growth disparities**  
R. Asano, M. Asai-Sato, S. Matsukuma, T. Mizushima, M. Taguri, M. Yoshihara, M. Inada, A. Fukui, Y. Suzuki, Y. Miyagi, and E. Miyagi  
*Kanazawa-ku and Asahi-ku, Yokohama, Kanagawa, Japan*  
Expression of erythropoietin mRNA in wild-type *MED12* uterine leiomyomas increases with E<sub>2</sub>. Leiomyoma without *MED12* mutation may grow larger compared with mutated type, probably because of estrogen-stimulated overexpression of erythropoietin.

## REPRODUCTIVE SURGERY

- 186** **Screening and evaluation of potential recipients and donors for living donor uterus transplantation: results from a single-center observational study**  
F.-A. Taran, D. Schöller, K. Rall, S. Nadalin, A. Königsrainer, M. Henes, H. Bösmüller, F. Fend, K. Nikolaou, M. Notohamiprodjo, C. Grasshoff, E. Heim, S. Zipfel, N. Schäffeler, T. Bakchoul, N. Heyne, M. Guthoff, B. Krämer, C. Reisenauer, M. Hoopmann, K.-O. Kagan, M. Brännström, D. Wallwiener, and S. Y. Brucker  
*Tübingen, Germany; and Göteborg and Stockholm, Sweden*  
We report our experience with screening and selection of potential living donors and recipients in the first-ever German uterus transplantation program. Meticulous preoperative screening is mandatory to maximize transplantation success.

### ERRATA

#### 194 Errata



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Cover image provided by Marta Shahbazi, laboratory of Magdalena Zernicka-Goetz. A human embryo cultured in the laboratory until embryonic day 10 in the absence of maternal tissues. At this stage the embryonic epiblast cells have initiated the formation of the amniotic cavity. These cells are surrounded by the developing extra-embryonic tissues (hypoblast and trophoblast). To view a color version of the image please visit: [https://www.fertstert.org/cover\\_v111](https://www.fertstert.org/cover_v111). © 2018 Marta Shahbazi