



JANUARY 2018 ■ Volume 218, Number 1

## REPORTS OF MAJOR IMPACT

- 1** Delayed vs early umbilical cord clamping for preterm infants: a systematic review and meta-analysis
-  Michael Fogarty; David A. Osborn; Lisa Askie; Anna Lene Seidler;
-  Kylie Hunter; Kei Lui; John Simes; William Tarnow-Mordi
- Delayed versus early cord clamping in preterm infants is discussed.

## SPECIAL REPORT

- 19** Proceedings: Beyond Ultrasound First Forum on improving the quality of ultrasound imaging in obstetrics and gynecology
- Beryl R. Benacerraf; Katherine K. Minton; Carol B. Benson; Bryann S. Bromley; Brian D. Coley; Peter M. Doubilet; Wesley Lee; Samuel H. Maslak; John S. Pellerito; James J. Perez; Eric Savitsky; Norman A. Scarborough; Joseph Wax; Alfred Z. Abuhamad
- The Beyond Ultrasound First Forum was intended to develop solutions on how to standardize and improve ultrasound training, and to introduce competency assessment tools and performance measures of ultrasound in clinical practice.
- 29** Obstetric and gynecologic ultrasound curriculum and competency assessment in residency training programs: consensus report
- Alfred Abuhamad; Katherine K. Minton; Carol B. Benson; Trish Chudleigh; Lori Crites; Peter M. Doubilet; Rita Driggers; Wesley Lee; Karen V. Mann; James J. Perez; Nancy C. Rose; Lynn L. Simpson; Ann Tabor; Beryl R. Benacerraf
- This document presents a consensus-based curriculum and competency assessment tools for the performance of the basic obstetric and gynecologic ultrasound examination, and is intended to be used in training programs.

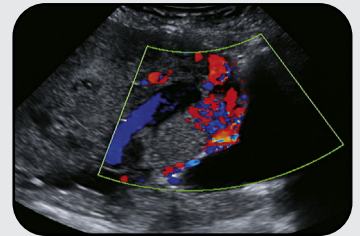
## EXPERT REVIEWS

- 68** Premenstrual disorders
- Kimberly Ann Yonkers; Michael K. Simoni
- Premenstrual syndrome treatment selection depends on presentation and patient preference; evidence supports use of serotonin reuptake inhibitors and oral contraceptives with shortened hormone-free intervals.

(continued)

Original research articles, whose abstracts appear in this issue, are posted in full at [ajog.org](http://ajog.org)

## ON THE COVER



Transabdominal color Doppler sonogram of placenta previa percreta at 36+6 weeks' gestation demonstrates large, irregular lacunae containing high-velocity turbulent flow. Significant utero-vesical hypervascularity appears as an abnormal "fan" of bidirectional vessels. The next day, the patient was delivered of a liveborn normal-size infant by fundal hysterotomy followed by an uncomplicated hysterectomy with the placenta left in situ.

Article, page 75

Image by Sally Collins, BMBCh, DPhil, Nuffield Department of Obstetrics and Gynecology, University of Oxford, and Fetal Medicine Unit, John Radcliffe Hospital, Oxford, UK.

## AJOG Roundup at [ajog.org](http://ajog.org)

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## Glossary of Symbols

### Editors' Choice



Articles selected by the editors for special notice

### SMFM papers



Articles from the Society for Maternal–Fetal Medicine

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Research articles from the latest SMFM meeting, sped to press

### IDSOG papers



Articles from the Infectious Diseases Society for Obstetrics and Gynecology

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## EXPERT REVIEWS *(continued)*

### 75 Placenta accreta spectrum: pathophysiology and evidence-based anatomy for prenatal ultrasound imaging

Eric Jauniaux; Sally Collins; Graham J. Burton

The pathophysiological basis of ultrasound signs in placenta accreta is secondary to permanent damage of the uterine wall and invasion of the deep uterine circulation.

## SYSTEMATIC REVIEWS

### 88 Drug interactions between non-rifamycin antibiotics and hormonal contraception: a systematic review

Katharine B. Simmons; Lisa B. Haddad; Kavita Nanda; Kathryn M. Curtis

Current limited data from clinical and pharmacokinetic studies indicate that most women who take hormonal contraception with non-rifamycin antibiotics can expect no reduction in contraceptive effectiveness.

## CLINICAL OPINION

### 98 Food and Drug Administration warning on anesthesia and brain development: implications for obstetric and fetal surgery

Olutoyin A. Olutoye; Byron Wycke Baker; Michael A. Belfort;

Oluyinka O. Olutoye

Impact of Food and Drug Administration warning on maternal fetal anesthesia practice.

## VIEWPOINT

### 103 Discussing sarcoma risks during informed consent for nonhysterectomy management of fibroids: an unmet need

Brandon-Luke L. Seagle; Amy L. Alexander; Anna E. Strohl; Shohreh Shahabi

Women electing an alternative to hysterectomy for fibroids should be informed of uterine sarcoma incidence and mortality risks.

## ORIGINAL RESEARCH

Articles abstracted in this issue appear in full at [ajog.org](http://ajog.org)

### GYNECOLOGY

### 107 Contraception after medication abortion in the United States: results from a cluster randomized trial

Corinne H. Rocca; Suzan Goodman; Daniel Grossman; Kara Cadwallader;

Kirsten M. J. Thompson; Elizabeth Talmont; J. Joseph Speidel;

Cynthia C. Harper

Women having medication abortions are less likely to have intrauterine devices placed than are aspiration abortion patients, despite similar counseling and method choices.

*(continued on page 6A)*

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(continued)

**ORIGINAL RESEARCH** (continued from page 4A)

- 109** Surgical outcomes among elderly women with endometrial cancer treated by laparoscopic hysterectomy: a NRG/Gynecologic Oncology Group study  
Erin A. Bishop; James J. Java; Kathleen N. Moore; Nick M. Spirtos; Michael L. Pearl; Oliver Zivanovic; David M. Kushner; Floor Backes; Chad A. Hamilton; Melissa A. Geller; Jean Hurteau; Cara Mathews; Robert M. Wenham; Pedro T. Ramirez; Susan Zweizig; Joan L. Walker  
Laparoscopic staging for endometrial cancer patients  $\geq 60$  years old results in decreased morbidity in the immediate postoperative period.
- 111** Refractory urgency urinary incontinence treatment in women: impact of age on outcomes and complications  
Yuko M. Komesu; Cindy L. Amundsen; Holly E. Richter; Stephen W. Erickson; Mary F. Ackenbom; Uduak U. Andy; Vivian W. Sung; Michael Albo; W. Thomas Gregory; Marie Fidela Paraiso; Dennis Wallace; for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Pelvic Floor Disorders Network  
Onabotulinumtoxin A and sacral neuromodulation both effectively treated older and younger women with refractory urgency urinary incontinence, although certain aspects of incontinence and questionnaire improvements differed.
- 114** Chronic pelvic pain in an interdisciplinary setting: 1-year prospective cohort  
Catherine Allaire; Christina Williams; Sonja Bodmer-Roy; Sean Zhu; Kristina Arion; Kristin Ambacher; Jessica Wu; Ali Yosef; Fontayne Wong; Heather Noga; Susannah Britnell; Holly Yager; Mohamed A. Bedaiwy; Arianne Y. Albert; Sarka Lisonkova; Paul J. Yong  
Chronic pelvic pain, quality of life, and health care utilization improve in a 1-year prospective cohort at an interdisciplinary center, but catastrophizing is associated with persistent pain.
- 116** Prolapse recurrence following sacrocolpopexy vs uterosacral ligament suspension: a comparison stratified by Pelvic Organ Prolapse Quantification stage  
Erin Seifert Lavelle; Lauren E. Giugale; Daniel G. Winger; Li Wang; Charelle M. Carter-Brooks; Jonathan P. Shepherd  
Sacrocolpopexy and uterosacral ligament suspension result in similar rates of prolapse recurrence for patients with stage II prolapse.
- 117** Trends in pelvic inflammatory disease emergency department visits, United States, 2006–2013  
Kristen Kreisel; Elaine W. Flagg; Elizabeth Torrone  
The percentage of emergency department visits among women aged 15–44 years due to pelvic inflammatory disease decreased during 2006–2013.
- 119** Validity of utility measures for women with pelvic organ prolapse  
Heidi S. Harvie; Daniel D. Lee; Uduak U. Andy; Judy A. Shea; Lily A. Arya  
The 3 multiattribute health-status classification systems—Health Utilities Index Mark 3, EuroQol 5 dimensions, and Short Form-6D—provide valid measurements for utility scores in women with pelvic organ prolapse.

## ORIGINAL RESEARCH (continued)

**121 Detailed muscular structure and neural control anatomy of the levator ani muscle: a study based on female human fetuses**

Krystel Nyangoh Timoh; David Moszkowicz; Mazen Zaitouna; Cedric Lebacqz; Jelena Martinovic; Djibril Diallo; Maud Creze; Vincent Lavoue; Emile Darai; Gérard Benoit; Thomas Bessedé

We characterized a medial (visceral, smooth muscular, autonomic) levator ani muscle and a lateral (parietal, striated muscular, somatic) levator ani muscle.

## OBSTETRICS

**122 Defining failed induction of labor**

William A. Grobman; Jennifer Bailit; Yinglei Lai; Uma M. Reddy; Ronald J. Wapner; Michael W. Varner; John M. Thorp Jr; Kenneth J. Leveno; Steve N. Caritis; Mona Prasad; Alan T. N. Tita; George Saade; Yoram Sorokin; Dwight J. Rouse; Sean C. Blackwell; Jorge E. Tolosa; for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

Maternal-Fetal Medicine Units Network

Cesarean delivery should not be undertaken, when maternal and fetal conditions permit, in the latent phase of an induced labor prior to at least 15 hours after oxytocin initiation and membrane rupture.

**124 Maternal hemodynamics: a method to classify hypertensive disorders of pregnancy**

Enrico Ferrazzi; Tamara Stampalija; Lorenzo Monasta; Daniela Di Martino; Sharona Vonck; Wilfried Gyselaers

Women with hypertensive disorders of pregnancy and small-for-gestational-age fetuses are characterized by low cardiac output and high vascular resistance, independent of proteinuria and gestational age, at disease onset.

**126 First-trimester screening for early and late preeclampsia using maternal characteristics, biomarkers, and estimated placental volume**

Jiri Sonek; David Krantz; Jon Carmichael; Cathy Downing; Karen Jessup; Ziad Haidar; Shannon Ho; Terrence Hallahan; Harvey J. Kliman; David McKenna

This study, which deals with first trimester screening for preeclampsia using maternal characteristics and biomarkers, showed an 85% detection rate for early-onset preeclampsia at a false positive rate of 5%.

**128 Comparison of conventional 2D ultrasound to magnetic resonance imaging for prenatal estimation of birthweight in twin pregnancy**

Caroline Kadji; Elisa Bevilacqua; Ivan Hurtado; Andrew Carlin; Mieke M. Cannie; Jacques C. Jani

In twin pregnancies, magnetic resonance imaging performs better than 2-dimensional ultrasound in the estimation of fetal weight and therefore is better in prediction of birthweight discordance.

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(continued)

**ORIGINAL RESEARCH** (continued)

**130 Mortality and pulmonary outcomes of extremely preterm infants exposed to antenatal corticosteroids**

Colm P. Travers; Waldemar A. Carlo; Scott A. McDonald; Abhik Das; Edward F. Bell; Namasivayam Ambalavanan; Alan H. Jobe; Ronald N. Goldberg; Carl T. D'Angio; Barbara J. Stoll; Seetha Shankaran; Abbot R. Laptook; Barbara Schmidt; Michele C. Walsh; Pablo J. Sánchez; M. Bethany Ball; Ellen C. Hale; Nancy S. Newman; Rosemary D. Higgins; for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Neonatal Research Network

Exposure to antenatal corticosteroids is associated with a lower rate of death, which is not offset by a higher rate of bronchopulmonary dysplasia.

**132 Low-dose betamethasone-acetate for fetal lung maturation in preterm sheep**

Augusto F. Schmidt; Matthew W. Kemp; Judith Rittenschober-Böhm; Paranthaman S. Kannan; Haruo Usuda; Masatoshi Saito; Lucy Furfaro; Shimpei Watanabe; Sarah Stock; Boris W. Kramer; John P. Newnham; Suhas G. Kallapur; Alan H. Jobe

A single low-dose injection of betamethasone-acetate promotes fetal lung maturation similar to the standard treatment with decreased fetal exposure to corticosteroids in preterm fetal sheep.

**134 Risk of operative delivery for intrapartum fetal compromise in small-for-gestational-age fetuses at term: an internally validated prediction model**

Erkan Kalafat; Jose Morales-Rosello; Basky Thilaganathan; Fathema Tahera; Asma Khalil

The model includes 6 important risk factors associated with the risk of operative delivery for fetal compromise in small-for-gestational-age fetuses at term.

**136 Oxidative stress-induced miR-27a targets the redox gene nuclear factor erythroid 2-related factor 2 in diabetic embryopathy**


Yang Zhao; Daoyin Dong; E. Albert Reece; Ashley R. Wang; Peixin Yang

The role of miR-27a and nuclear factor erythroid 2-related factor 2 in diabetic embryopathy.

**IMAGES IN GYNECOLOGY**
**138 Vulvar zoster**

Emily M. English; Mitchell B. Berger

A 64-year-old woman presented with a varicella zoster outbreak on the vulva eleven days following a pudendal nerve block.



**RESEARCH LETTER**
**140 Variation in waiting period for Medicaid postpartum sterilizations: results of a national survey of obstetricians-gynecologists**

Kavita Shah Arora; Neko Castleberry; Jay Schulkin

## LETTERS TO THE EDITORS

- 142** Randomized clinical trials are not always the best way to assess diagnostic tests: the case of fetal fibronectin testing  
G. J. van Baaren; M. M. C. Bruijn; B. W. Mol  
Reply, page 143  
Vincenzo Berghella; Gabriele Saccone  
Reply, page 145  
George A. Macones
- 145** Letter to the editor  
Marc Jackson; Mark A. Turrentine; Christopher M. Zahn  
Reply, page 146  
Eyal Krispin
- 146** Effective evidence-based medicine: considering factors not included in research studies  
Angelia L. Sakyi-Agyekum  
Reply, page 147  
Abdulrahim A. Rouzi; Rigmor C. Berg
- 147** Beyond the traditional models of group prenatal care: the case for Moms2B  
Patricia T. Gabbe; Steven G. Gabbe; Courtney D. Lynch  
Reply, page 148  
Sara Mazzoni; Ebony Boyce Carter
- 148** 3D transvaginal sonography in obstetrics and gynecology  
Carlos M. Fernandez; Elliot M. Levine  
Reply, page 149  
Sa Ra Lee; Ha Na Yoon
- 149** Comment on: Predicting the difficulty of operative vaginal delivery by ultrasound measurements of the fetal head station  
Shunji Suzuki  
Reply, page 150  
Sidi Kasbaoui; François Severac; Nicolas Sananes

## SOCIETY FOR MATERNAL-FETAL MEDICINE

- B2** Society for Maternal-Fetal Medicine (SMFM) Consult Series #44: Management of bleeding in the late preterm period  
 Society for Maternal-Fetal Medicine (SMFM); Cynthia Gyamfi-Bannerman  
The purpose of this document is to provide guidance on management of late preterm vaginal bleeding.
- B9** Research to knowledge: promoting the training of physician-scientists in the biology of pregnancy  
 Society for Maternal-Fetal Medicine (SMFM); Yoel Sadovsky; Aaron B. Caughey; Michelle DiVito; Mary E. D'Alton; Amy P. Murtha; SMFM Research Committee  
Pregnancy's life-long impact on maternal and neonatal health, coupled with advances in data science, underscores the need for physician-scientists trained in the biology of pregnancy.

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- 11A** Classified advertising

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