

JANUARY 2013 ■ Volume 208, Number 1

### EDITORIAL

#### 1 Vaginal progesterone or cerclage to prevent recurrent preterm birth?

C. Andrew Combs

➤ See related article, page 42

### SMFM CLINICAL GUIDELINE

#### 3 Twin-twin transfusion syndrome



Society for Maternal-Fetal Medicine (SMFM), with the assistance of Lynn L. Simpson

### EXPERT REVIEWS

#### OBSTETRICS

#### 19 ★ The vascular anastomoses in monochorionic twin pregnancies and their clinical consequences

Liesbeth Lewi; Jan Deprest; Kurt Hecher

This article reviews the role of the vascular anastomoses in monochorionic twin pregnancies and their clinical consequences.

**EDITORS' COMMENTARY:** Adverse pregnancy outcome is more common in monochorionic than in dichorionic twins. The presence of vascular anastomosis connecting the 2 fetal circulations is central to the generation of twin-to-twin transfusion syndrome, the twin anemia polycythemia sequence, and the twin reversal arterial perfusion sequence. This review describes the methods for the study of vascular anastomosis of the placenta, and provides a unique set of elegant and informative images about the behavior of different types of anastomosis. We believe that readers of AJOG will enjoy the article, and the images in particular.

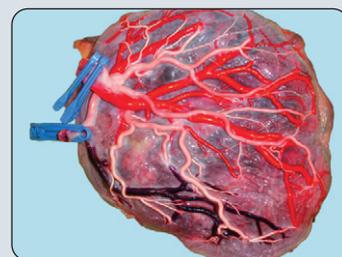
(continued)

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### ON THE COVER



Placenta of a monoamniotic twin pair that resulted in 2 healthy newborns at 32 weeks. The placental part of twin 1 (purple) is supplied entirely by arteries (white) from twin 2. A large artery-to-artery anastomosis connects the circulation of the 2 fetuses. **Article, page 19.**  
**Image, page 25.**

The *American Journal of Obstetrics & Gynecology* (ISSN 0002-9378) is published monthly by Elsevier Inc., 360 Park Avenue South, New York, NY 10010-1710. Periodicals postage paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to the *American Journal of Obstetrics & Gynecology*,



Elsevier Health Sciences Division, Subscription Customer Service, 3251 Riverport Lane, Maryland Heights, MO 63043.

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Explains the significance of an Editors' Choice article

### Journal Club



Discussion of a research article in this issue

### Cross-reference



Identifies interrelated articles

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## CLINICAL OPINION

### OBSTETRICS

#### 31 Planned home birth: the professional responsibility response

Frank A. Chervenak; Laurence B. McCullough; Robert L. Brent; Malcolm I. Levene; Birgit Arabin

Planned home birth is incompatible with deliberative, evidence-based reasoning and with the professional responsibility model of obstetric care.

### REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY

#### 39 Cardiovascular risk and combined oral contraceptives: clinical decisions in settings of uncertainty

Jennifer P. Beller; Christopher R. McCartney

The Framingham risk calculator can help physicians and patients incorporate baseline cardiovascular risk into the risk-benefit analysis of combined oral contraceptive use.

## REPORTS OF MAJOR IMPACT

#### 42 Vaginal progesterone vs cervical cerclage for the prevention of preterm birth in women with a sonographic short cervix, previous preterm birth, and singleton gestation: a systematic review and indirect comparison metaanalysis



Agustin Conde-Agudelo; Roberto Romero; Kypros Nicolaides; Tinnakorn Chaiworapongsa; John M. O'Brien; Elcin Cetingoz; Eduardo da Fonseca; George Creasy; Priya Soma-Pillay; Shalini Fusey; Cetin Cam; Zarko Alfirevic; Sonia S. Hassan

Vaginal progesterone is as effective as cervical cerclage in the prevention of preterm birth in women with a sonographic short cervix (<25 mm), singleton gestation, and previous spontaneous preterm birth.

**EDITORS' COMMENTARY:** Our strategies for preventing prematurity have been rapidly evolving. Recent studies have demonstrated that premature delivery can be reduced in the very high risk group of patients with a previous preterm delivery who also have a short cervix measured by endovaginal ultrasound in the midtrimester using either cervical cerclage or vaginal progesterone. But direct comparative studies have not been done between these 2 interventions prior to this study. This indirect patient metaanalysis of these 2 interventions adds light to our decision-making in this group of patients.

➤ See related editorial, page 1

## RESEARCH

### GENERAL GYNECOLOGY

#### 46 The role of appendectomy for mucinous ovarian neoplasms

Jennifer E. Lin; Songwon Seo; David M. Kushner; Stephen L. Rose

The grossly normal appendix rarely harbors pathology when removed during surgery for mucinous ovarian neoplasms.

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360 Park Avenue South  
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**RESEARCH** (continued from page 4A)

**48 Validity of perceived weight gain in women using long-acting reversible contraception and depot medroxyprogesterone acetate**

Ashley M. Nault; Jeffrey F. Peipert; Qihong Zhao;  
Tessa Madden; Gina M. Secura

Users of the implant and depot medroxyprogesterone acetate reported the most perceived weight gain, and in most women, perceived weight gain represents true weight gain.

**50 Impact of childbirth and mode of delivery on vaginal resting pressure and on pelvic floor muscle strength and endurance**

Gunvor Hilde; Jette Stær-Jensen; Franziska Siafarikas; Marie Ellström Engh;  
Ingeborg Hoff Brækken; Kari Bø

Vaginal resting pressure and pelvic floor muscle strength and endurance declined significantly and were pronounced after vaginal delivery; continent women were stronger than incontinent counterparts.

**52 Cotton-tipped applicator test: validity and reliability in chronic pelvic pain**

Maryam Nasr-Esfahani; John Jarrell

The cotton-tipped applicator test has excellent interrater reliability and concurrent validity for diagnosis of cutaneous allodynia in chronic pain patients with visceral diseases versus controls.

**54 Common postoperative pulmonary complications after hysterectomy for benign indications**

Ellen R. Solomon; Tyler M. Muffly; Matthew D. Barber

The incidence of postoperative pulmonary complications in patients who undergo hysterectomy for benign disease is extremely low; among the types of hysterectomy, the incidence is no different.

**OBSTETRICS**
**56 Adverse outcomes in twin pregnancies complicated by early vaginal bleeding**


Jessica A. McPherson; Anthony O. Odibo; Anthony L. Shanks;  
Kimberly A. Roehl; George A. Macones; Alison G. Cahill

Vaginal bleeding early in twin pregnancies is associated with increased risks of abruption, preterm premature rupture of membranes, and preterm birth <34 weeks.

**EDITORS' COMMENTARY:** The editors chose to publish this article in the belief that insufficient attention has been paid to the causes and consequences of unexplained vaginal bleeding during pregnancy. Too often, clinicians and researchers settle for the 1-2-3 approach to pregnant women with bleeding: (1) look at the cervix and vagina for a local cause; (2) do an ultrasound to look for placenta previa; and (3) if 1 and 2 are negative, it's an abruption. There are many causes of bleeding during pregnancy that are worthy of additional investigation. This article advances that process.

(continued on page 8A)

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## RESEARCH *(continued from page 6A)*

### 58 First-trimester metabolomic detection of late-onset preeclampsia



Ray O. Bahado-Singh; Ranjit Akolekar; Rupasri Mandal; Edison Dong; Jianguo Xia; Michael Kruger; David S. Wishart; Kypros Nicolaidis

First-trimester metabolomic analysis of maternal serum identifies multiple biomarkers that distinguish normal from late-onset preeclampsia pregnancies.



See Journal Club, page 87

### 60 Is maternal posturing during labor efficient in preventing persistent occiput posterior position? A randomized controlled trial

Raoul Desbriere; Julie Blanc; Renaud Le Dù; Jean-Paul Renner; Xavier Carcopino; Anderson Loundou; Claude d'Ercole

A policy of maternal posturing for the management of occiput posterior position during labor failed to demonstrate any maternal or neonatal benefit.

### 62 Blunt vs sharp uterine expansion at lower segment cesarean section delivery: a systematic review with metaanalysis

Lileane Liang Xu; Anthony Minh Tien Chau; Andrew Zuschmann

Blunt dissection of the uterine incision at cesarean section delivery is associated with a significant reduction in blood loss when compared with sharp dissection.

### 64 Maternal autoantibody levels in congenital heart block and potential prophylaxis with antiinflammatory agents

Robert D. Tunks; Megan E. B. Clowse; Stephen G. Miller; Leo R. Brancazio; Piers C. A. Barker

Maternal anti-La/SSB antibody levels are significantly higher in pregnancies complicated by fetal heart block and maternal therapy with antiinflammatory agents may provide a protective effect.

### 66 Monitoring uterine activity during labor: a comparison of 3 methods

Tammy Y. Euliano; Minh Tam Nguyen; Shalom Darmanjian; Susan P. McGorray; Neil Euliano; Allison Onkala; Anthony R. Gregg

Using intrauterine pressure as the gold standard, electrohysterography outperformed tocodynamometry for uterine activity monitoring during active labor in 59 women of varying body habitus.

### 68 Fibroid tumors are not a risk factor for adverse outcomes in twin pregnancies

Molly J. Stout; Anthony O. Odibo; Anthony L. Shanks; Ryan E. Longman; George A. Macones; Alison G. Cahill

Women with twin pregnancies and fibroid tumors are not at increased risk for adverse obstetric outcomes compared with twin pregnancies without fibroid tumors.

*(continued on page 10A)*

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**RESEARCH** (continued from page 8A)

**ONCOLOGY**

**71 Does the type of surgery for early-stage endometrial cancer affect the rate of reported lymphovascular space invasion in final pathology specimens?**

Mazdak Momeni; Valentin Kolev; Joel Cardenas-Goicoechea; Joelle Getrajdman; David Fishman; Linus Chuang; Tamara Kalir; Jamal Rahaman; Konstantin Zakashansky

This study determined whether the laparoscopic approach increases the rate of artificial introduction of neoplastic epithelium into the lymphovascular space by intracavitary manipulation during the surgical staging of early-stage endometrial cancer.

**UROGYNECOLOGY**

**73 Sling revision/removal for mesh erosion and urinary retention: long-term risk and predictors**



Michele Jonsson Funk; Nazema Y. Siddiqui; Virginia Pate; Cindy L. Amundsen; Jennifer M. Wu

In this population-based analysis of 188,454 women aged 18-64 years, the 9 year risk of sling revision/removal was less than 4%, with the majority caused by mesh erosion.

**EDITORS' COMMENTARY:** This large database study provides useful information for surgeons as they counsel patients about the immediate and longer-term risk of midurethral sling revision or removal caused by mesh erosion or voiding dysfunction. The results should also help inform the Food and Drug Administration's assessment of the benefit/risk balance for synthetic sling procedures.

**75 Anatomic relationships of single-incision midurethral slings**

T. Ignacio Montoya; Jennifer J. Street; Marlene M. Corton

Anchor points of minislings are in close proximity to important retropubic vascular structures.

**77 Is there a high incidence of hysterectomy and other nonbladder surgeries before and after onset of interstitial cystitis/bladder pain syndrome?**

John W. Warren; Fred M. Howard; Vadim V. Morozov

There may be a very high incidence of hysterectomy, ovarian surgeries, and other nonbladder pelvic surgeries just before interstitial cystitis/bladder pain syndrome onset that declines in the first 2 years of the syndrome.

**79 Trends in use of surgical mesh for pelvic organ prolapse**



Michele Jonsson Funk; Autumn L. Edenfield; Virginia Pate; Anthony G. Visco; Alison C. Weidner; Jennifer M. Wu

From 2005 to 2010, the rate of mesh prolapse procedures has increased, with vaginal mesh surgeries constituting the vast majority.

**EDITORS' COMMENTARY:** Using adjudicated US health care claims data, this study documents an increase in the rate of vaginal mesh pelvic organ prolapse surgery from 2005 through 2007, with a leveling off of in rates from 2008 through 2010. Three-fourths of mesh used for pelvic reconstructive surgery was placed vaginally. It will be interesting to see how updated Food and Drug Administration safety advisories since 2011 regarding complications related to vaginal mesh procedures will have an impact on these numbers. Similar population-based studies to characterize and quantitate complications of vaginal mesh are needed.

(continued on page 12A)

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## RESEARCH (continued from page 10A)

### 81 The Pelvic Floor Complication Scale: a new instrument for reconstructive pelvic surgery

Robert E. Gutman; Ingrid E. Nygaard; Wen Ye; David D. Rahn; Matthew D. Barber; Halina M. Zyczynski; Leslie Rickey; Charles W. Nager; R. Edward Varner; Kimberly Kenton; Kimberly J. Dandreo; Holly E. Richter; for the Pelvic Floor Disorders Network and the Urinary Incontinence Treatment Network

The newly developed Pelvic Floor Complication Scale and the modified Clavien-Dindo scale performed similarly in a urogynecologic surgical population.

### BASIC SCIENCE: OBSTETRICS

### 86 Effect of endogenous steroid hormones on 17-alpha-hydroxyprogesterone caproate metabolism

Courtney D. Cuppett; Yang Zhao; Steve Caritis; Shimin Zhang; Wenchen Zhao; Raman Venkataramanan

Progesterone inhibits the metabolism of 17-alpha-hydroxyprogesterone caproate and may affect the drug's plasma concentration.



## JOURNAL CLUB

### 87 Metabolomic prediction of late-onset preeclampsia: Bahado-Singh et al

Moderators: Heather A. Frey; George A. Macones; discussants: Jenifer Allsworth; Lauren Theilen; Janine Spain

Researchers used metabolomics, a field centered on the study of metabolites, to determine whether risk for late-onset preeclampsia could be detected in the first trimester of pregnancy. Journal Club members discussed the possible applications for an accurate test of this type, the directions metabolomic research could take, and the construction of different predictive models.

➤ See related article, page 58 and full discussion, page e10

## IMAGES IN GYNECOLOGY

### 89 A distinct entity

Husein Husein El Ahmed; Carmen Dulanto-Campos

A wart-like lesion had been developing on the patient's vulva for the better part of a year. After topical treatments failed, a biopsy was performed, and this revealed a rare condition.

## CORRECTION

### 86 May 2012 (vol. 206, no. 5, page 376)

In a Clinical Guideline from the Society for Maternal-Fetal Medicine Publications Committee that appeared in the May 2012 issue of the Journal, the word "compounded" was incorrectly used to describe the 17- $\alpha$ -hydroxyprogesterone caproate used in an NICHD MFMU Network clinical trial.

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## AJOG ONLINE

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## JOURNAL CLUB ROUNDTABLE

### **e10** Discussion: 'Metabolomic prediction of late-onset preeclampsia,' by Bahado-Singh et al



Moderators: Heather A. Frey; George A. Macones; discussants: Jenifer Allsworth; Lauren Theilen; Janine Spain

Researchers interested in the roles metabolites play in sickness and in health have, to date, documented more than 8000 types found in the human body. Journal Club members had a lot to say about a new study that explored whether a comparative handful of these tiny molecules might make it possible to predict late-term preeclampsia in the first trimester of pregnancy.

➤ See related article, pages 58 and 87

## CASE REPORT

### **e12** A rare case of primary extranodal marginal zone B-cell lymphoma of the ovary, fallopian tube, and appendix in the setting of endometriosis

Ceana H. Nezhat; Erica C. Dun; Friedrich Wieser; Mauricio Zapata

We report the first case of a primary extranodal marginal zone B-cell lymphoma of the ovary, fallopian tube, and appendix in the setting of endometriosis.

## LETTERS TO THE EDITORS

### **e15** IUGA/ICS terminology and classification of complications of prosthesis and graft insertion—rereading will revalidate

Bernard T. Haylen; Christopher Maher; Jan Deprest

Reply, page e15

Elena Tunitsky; Sara Abbott; Matthew D. Barber

### **e16** Validity of intraoperative evaluation of myometrial invasion and preoperative grading in endometrial cancer

Tayfun Toptas; Tayup Simsek

Reply, page e17

Sofiane Bendifallah; Martin Koskas; Roman Rouzier

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