

JANUARY 2009 ■ Volume 200, Number 1

EDITORIAL

1 Spatiotemporal electromyography during human labor to monitor propagation of the uterine contraction wave and diagnose dystocia

Catalin S. Buhimschi

➤ See related article, page 54

REVIEWS

OBSTETRICS

4 Saving lives and changing family histories: appropriate counseling of pregnant women and men and women of reproductive age, concerning the risk of diagnostic radiation exposures during and before pregnancy

Robert L. Brent

It is important to provide appropriate counseling to pregnant women and women of reproductive age who have been exposed to radiation.

EDUCATION

25 To the point: reviews in medical education—the Objective Structured Clinical Examination

Petra M. Casey; Alice R. Goepfert; Eve L. Espey; Maya M. Hammoud; Joseph M. Kaczmarczyk; Nadine T. Katz; James J. Neutens; Francis S. Nuthalapaty; Edward Peskin

Practical tips and evidence-based recommendations for effective use of the Objective Structured Clinical Examination and assessment of medical student knowledge, skills, and attitude are presented.

(continued)



The article summaries that appear in the Journal are abbreviated versions of Research and Clinical Opinion articles published in full on the Journal's website at www.AJOG.org. While the great majority of these summaries are written by Journal staff and all are approved by the bylined authors and Journal editors, some summaries are written by the original authors and prepared for publication by Journal staff.

ON THE COVER



Elevated preoperative peak systolic velocity of the middle cerebral artery (MCA-PCV), present in about 5% of fetuses with twin-twin transfusion syndrome (TTTS), is associated with an increased likelihood of intrauterine fetal demise within 24 hours of selective laser surgery. In this endoscopic image of a donor twin during laser surgery for stage III TTTS at 19.3 weeks, the fetal skin appears pale. Preoperative Doppler assessment had identified an MCA-PSV of 41 cm/s, consistent with 1.66 MoM, suggesting severe fetal anemia. **Page 61.e4.**

Courtesy of the authors. Caption by Patricia W. Bornick, RN.

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Explains the significance of an Editors' Choice article

Journal Club



Discussion of a research article in this issue

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Identifies interrelated articles

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Articles in full



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(continued)

CLINICAL OPINION

OBSTETRICS

35 Oxytocin: new perspectives on an old drug

Steven L. Clark; Kathleen Rice Simpson; G. Eric Knox; Thomas J. Garite

A critical review of clinical data and pharmacologic properties of oxytocin suggests the need for greater caution with the intrapartum use of this drug.

RESEARCH

GENERAL GYNECOLOGY

38 Does douching increase risk for sexually transmitted infections? A prospective study in high-risk adolescents



Cynthia S. Tsai; Bryan E. Shepherd; Sten H. Vermund

A prospective study of 411 high-risk female adolescents from 13 cities in the United States documented higher sexually transmitted infection incidence among those who douched.



See Journal Club, page 112

40 Ending cervical cancer screening: attitudes and beliefs from ethnically diverse older women

George F. Sawaya; A. Yuri Iwaoka-Scott; Sue Kim; Sabrina T. Wong; Alison J. Huang; A. Eugene Washington; Eliseo J. Pérez-Stable

The majority of women interviewed believe that lifelong cervical cancer screening is important, but many reported they would end screening if recommended by their physicians.

42 The effects of male circumcision on female partners' genital tract symptoms and vaginal infections in a randomized trial in Rakai, Uganda

Ronald H. Gray; Godfrey Kigozi; David Serwadda; Frederick Makumbi; Fred Nalugoda; Stephen Watya; Laurence Moulton; Michael Z. Chen; Nelson K. Sewankambo; Noah Kiwanuka; Victor Sempijja; Tom Lutalo; Joseph Kagayii; Fred Wabwire-Mangen; Renée Ridzon; Melanie Bacon; Maria J. Wawer

A randomized trial of male circumcision showed reduced genital ulceration, trichomonas, and bacterial vaginosis in female partners of circumcised men.

44 Three-dimensional power Doppler ultrasound scanning for the prediction of endometrial cancer in women with postmenopausal bleeding and thickened endometrium

Juan Luis Alcazar; Rosendo Galvan

Three-dimensional power Doppler angiography may be useful to differentiate benign from malignant endometrial disease in women with postmenopausal bleeding and thickened endometrium at baseline sonography.

OBSTETRICS

46 Maternal thrombophilia and the risk of recurrence of preeclampsia

Fabio Facchinetti; Luca Marozio; Tiziana Frusca; Elvira Grandone; Paolo Venturini; Giovanni Luca Tiscia; Sonia Zatti; Chiara Benedetto

White women carrying a thrombophilic defect have an increased risk of recurrence of preeclampsia in the next pregnancy.

(continued on page 6A)

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RESEARCH (continued from page 4A)

48 **Obstetricians' choice of cesarean delivery in ambiguous cases: is it influenced by risk attitude or fear of complaints and litigation?**



Dorthe Fuglenes; Pål Øian; Ivar Sønbo Kristiansen

Norwegian obstetricians are influenced by the perceived risk of complaints and malpractice litigation in accepting cesarean requests.

EDITORS' COMMENTARY: A study of physician-related factors that might influence obstetric decisions found that fear of malpractice litigation increased the likelihood of cesarean birth but that physician's personal tolerance for risk did not.

51 **Occupational factors and risk of preterm birth in nurses**



Christina C. Lawson; Elizabeth A. Whelan; Eileen N. Hibert; Barbara Grajewski; Donna Spiegelman; Janet W. Rich-Edwards

Night work was related to an increased risk of early but not late preterm birth, whereas physically demanding work did not strongly predict risk.

EDITORS' COMMENTARY: The authors provide a useful analysis of occupational risk factors for preterm birth among nurses; these data will interest many in our readership.

54 **Spatiotemporal electrohysterography patterns in normal and arrested labor**



Tammy Y. Euliano; Dorothee Marossero; Minh Tam Nguyen; Neil R. Euliano; Jose Principe; Rodney K. Edwards

Spatiotemporal analysis of uterine contractions using noninvasive electrohysterography identified patterns that differed between vaginally delivered patients and those requiring cesarean delivery for active-phase labor arrest.

EDITORS' COMMENTARY: The authors describe a novel technique of evaluating function and dysfunction that may interest many readers. We asked Dr Catalin Buhimschi to comment.

➤ See related editorial, page 1

56 **Can a prediction model for vaginal birth after cesarean also predict the probability of morbidity related to a trial of labor?**

William A. Grobman; Yinglei Lai; Mark B. Landon; Catherine Y. Spong; Kenneth J. Leveno; Dwight J. Rouse; Michael W. Varner; Atef H. Moawad; Steve N. Caritis; Margaret Harper; Ronald J. Wapner; Yoram Sorokin; Menachem Miodovnik; Marshall Carpenter; Mary J. O'Sullivan; Baha M. Sibai; Oded Langer; John M. Thorp; Susan M. Ramin; Brian M. Mercer; for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network

A model that predicts chance of vaginal birth after cesarean also indicates who is at no greater risk of morbidity from a trial of labor after cesarean than from an elective cesarean.

58 **A history of preeclampsia identifies women who have underlying cardiovascular risk factors**

Graeme N. Smith; Mark C. Walker; Aizhong Liu; Shi Wu Wen; Melissa Swansburg; Heather Ramshaw; Ruth Rennicks White; Michelle Roddy; Michelle Hladunewich; for the Pre-Eclampsia New Emerging Team (PE-NET)

A history of preeclampsia identifies women who have an increase in underlying cardiovascular risk factors.

(continued)

RESEARCH (continued)

- 61** **Assessment of the peak systolic velocity of the middle cerebral artery in twin-twin transfusion syndrome. Part I: preoperative assessment**
Eftichia V. Kontopoulos; Rubén A. Quintero
An elevated peak systolic velocity of the middle cerebral artery is a risk factor for intrauterine fetal demise after laser surgery.
- 63** **Preeclampsia and subsequent risk of cancer: update from the Jerusalem Perinatal Study**
Ronit Calderon-Margalit; Yechiel Friedlander; Rivka Yanetz; Lisa Deutsch; Mary C. Perrin; Karine Kleinhaus; Efrat Tiram; Susan Harlap; Ora Paltiel
In a population-based cohort study, preeclampsia was associated with increased overall cancer risk, especially breast and ovarian cancer.
- 66** **Abnormal endothelium-dependent microvascular dilator reactivity in pregnancies complicated by normotensive intrauterine growth restriction**
Corine M. Koopmans; Judith Blaauw; Maria G. van Pampus; Gerhard Rakhorst; Jan G. Aarnoudse
Pregnant women with normotensive intrauterine growth restriction during the third trimester of pregnancy have abnormal endothelium-dependent microvascular dilator reactivity, suggesting endothelial dysfunction.
- 68** **Therapeutic cerclage may be more efficacious in women who develop cervical insufficiency after a term delivery**
Sarah H. Poggi; Nisha Vyas; John C. Pezzullo; Helain J. Landy; Alessandro Ghidini
Therapeutic cerclage for cervical insufficiency after term delivery may have better outcome than when placed without history of prior term birth.
- 70** **High-dose methadone in pregnant women and its effect on duration of neonatal abstinence syndrome**
Susie Lim; Mona R. Prasad; Philip Samuels; Debra K. Gardner; Leandro Cordero
Higher doses of maternal methadone were found to increase the length of neonatal abstinence syndrome.

REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY

- 72** **Breast cancer incidence after hormonal infertility treatment in Sweden: a cohort study**
Chantal C. Orgéas; Karin Sanner; Per Hall; Peter Conner; Jan Holte; Staffan J. Nilsson; Karin Sundfeldt; Ingemar Persson; Kee Seng Chia; Sara Wedren; Paul W. Dickman; Kamila Czene
There is no overall increased risk of breast cancer with infertility drug therapy; but high-dose clomiphene may affect breast cancer risk, depending on causes of infertility.

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RESEARCH *(continued)*
ONCOLOGY

- 75** Generation of CA125-specific cytotoxic T lymphocytes in human leukocyte antigen-A2.1-positive healthy donors and patients with advanced ovarian cancer
Stefania Bellone; Simone Anfossi; Timothy J. O'Brien; Martin J. Cannon; Dan-Arin Silasi; Masoud Azodi; Peter E. Schwartz; Thomas J. Rutherford; Sergio Pecorelli; Alessandro D. Santin
YTLD_rDSL_{YV} is a potentially immunogenic peptide derived from CA125 in ovarian cancer patients.
- 78** The prognostic value of molecular biomarkers in tissue removed by curettage from FIGO stage 1 and 2 endometrioid type endometrial cancer
Anita Steinbakk; Ivar Skaland; Einar Gudlaugsson; Emiel A. M. Janssen; Kjell H. Kjellevold; Jan Klos; Kjell Løvslett; Bent Fiane; Jan P. A. Baak
In curettage material of pathologic FIGO stage 1-2 endometrioid endometrial cancers, combined biomarkers survivin, p21, and p53 expression patterns are strongly prognostic.
- 80** A lower incidence of gynecologic adverse events and interventions with anastrozole than with tamoxifen in the ATAC trial
Sean R. Duffy; Wolfgang Distler; Anthony Howell; Jack Cuzick; Michael Baum
A comprehensive retrospective analysis of all gynecological adverse events which occurred during the ATAC study is presented. A total of 1691 adverse events were considered. Anastrozole was associated with less gynecologic events and less interventions. Tamoxifen was associated with a 4-fold increase in the number of hysterectomies.
- 83** Laparoscopic management of early ovarian and fallopian tube cancers: surgical and survival outcome
Farr R. Nezhat; Mohammad Ezzati; Linus Chuang; Alireza A. Shamshirsaz; Jamal Rahaman; Herb Gretz
Operative laparoscopy is an acceptable and safe alternative to laparotomy for the management of early ovarian and fallopian tube cancers.

UROGYNECOLOGY

- 86** Postmenopausal hormone therapy and incident urinary incontinence in middle-aged women
Mary K. Townsend; Gary C. Curhan; Neil M. Resnick; Francine Grodstein
Younger postmenopausal women who use hormone therapy have an increased risk of developing urinary incontinence.
- 88** New pelvic symptoms are common after reconstructive pelvic surgery
Thythy Pham; Kimberly Kenton; Elizabeth Mueller; Linda Brubaker
New symptoms after reconstructive pelvic surgery are common and associated with decreased satisfaction despite objective cure and improvement on validated quality of life measures.

(continued)

RESEARCH (continued)

BASIC SCIENCE: OBSTETRICS

- 91** The transplacental transport of essential amino acids in uncomplicated human pregnancies
Henry L. Galan; Anna Maria Marconi; Cinzia L. Paolini;
Alex Cheung; Frederick C. Battaglia
The essential amino acids showed significant umbilical uptake and striking differences in their transport rates in vivo.
- 93** The adaptor protein MyD88 is essential for *E coli*-induced preterm delivery in mice
Yana Filipovich; Shi-Jiang Lu; Shizuo Akira; Emmet Hirsch
The adaptor protein MyD88 is essential for *E coli*-induced preterm delivery.
- 96** *Ureaplasma* colonization of amniotic fluid and efficacy of antenatal corticosteroids for preterm lung maturation in sheep
Timothy J. M. Moss; Ilias Nitsos; Christine L. Knox; Graeme R. Polglase;
Suhas G. Kallapur; Machiko Ikegami; Alan H. Jobe; John P. Newnham
Antenatal corticosteroids are effective at improving preterm lung function in the presence of preexisting amniotic fluid *Ureaplasma* colonization in sheep.
- 98** Quantification of cell free fetal DNA in maternal plasma in normal pregnancies and in pregnancies with placental dysfunction
Medhat S. Alberry; Deborah G. Maddocks; Medhat A. Hadi; Helmi Metawi;
Linda P. Hunt; Sherif A. Abdel-Fattah; Neil D. Avent; Peter W. Soothill
We created a reference range of free fetal DNA in pregnancy. Free fetal DNA levels were higher in placental dysfunction and may be related to its severity.
- 100** Cord immunoproteins as predictors of respiratory outcome in preterm infants
Tuula Kaukola; Jarno Tuimala; Riitta Herva;
Stephen Kingsmore; Mikko Hallman
Specific cord serum proteins independently predicted the risk of either respiratory distress syndrome or bronchopulmonary dysplasia in very preterm infants.
- 102** The effects of sildenafil citrate (Viagra) on uterine blood flow and well being in the intrauterine growth-restricted fetus
Suzanne L. Miller; Jan M. Loose; Graham Jenkin; Euan M. Wallace
Effects of sildenafil citrate (Viagra) on uterine blood flow and fetal well being in healthy or growth-restricted fetuses were studied.
- 104** Term labor is associated with a core inflammatory response in human fetal membranes, myometrium, and cervix
Shrikant Bollopragada; Refaat Youssef; Fiona Jordan;
Ian Greer; Jane Norman; Scott Nelson
Term labor is characterized by a common inflammatory phenotype in human myometrium and cervix.

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RESEARCH (continued from page 9A)**GENETICS****110** Is there an association between uterine leiomyomas and acid phosphatase locus 1 polymorphism?

Maria Laura Ammendola; Adalgisa Pietropolli; Florigio Lista; Patrizia Saccucci; Emilio Piccione; Egidio Bottini; Fulvia Gloria-Bottini

Platelet-derived growth factor is involved in the growth of leiomyomas. Low-molecular-weight phosphoprotein-tyrosine-phosphatase, which is able to dephosphorylate the platelet-derived growth factor receptor and suppress the effects of platelet-derived growth factor, shows a negative correlation with tumor size.

**JOURNAL CLUB****112** Douching and the risk for sexually transmitted disease: Tsai et al

Jenifer E. Allsworth; George A. Macones

Douching seems to do more harm than good, yet the practice continues among teens. Journal Club members discussed a new study associating the practice with sexually transmitted infections—and what they might have done differently. Nonetheless, they agreed that this worthwhile effort should spur more research.

➤ See related article, page 38, and full discussion, page e11

IMAGES IN GYNECOLOGY**114** Think outside the box

Ferga C. Gleeson; Lizhi Zhang; Michael J. Levy

Bilateral pulmonary emboli were evident on a computed tomography image. But why did the patient also have evidence of delayed gastric emptying?

SURGEON'S CORNER**116** Complex abdominal wall reconstruction after radiation therapy
A full-thickness defect was repaired with a rectus femoris myofasciocutaneous flap

Fábio Machado Landim; José Marconi Tavares; Marcelo Leite Vieira Costa; Rodrigo Machado Landim; Roney Gonçalves Fechine Feitosa

The authors report a case of unusual cervix carcinoma recurrence in the abdominal wall and describe an option of reconstruction with a rectus femoris myocutaneous flap.

PROFESSIONAL AND EDUCATIONAL OPPORTUNITIES**15A** Classified advertising

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JOURNAL CLUB ROUNDTABLE

e11 Discussion: 'Douching and the risk for sexually transmitted disease' by Tsai et al



Moderator: Jenifer E. Allsworth; discussants: Katherine J. Hladky; Taylor Hotchkiss; Colleen McNicholas; Amanda Rohn

Does douching increase the likelihood of sexually transmitted infection among teens with high-risk behaviors? After discussing a new study investigating a possible association, Journal Club members came to the following conclusion: maybe. They also agreed that the work was important and hoped it would launch further research.

➤ See related articles, pages 38 and 112

CASE REPORTS

e15 Spontaneous rectovaginal fistula during bevacizumab therapy for ovarian cancer: a case report

Elisabeth Chéreau; Dan Stefanescu; Frédéric Selle; Roman Rouzier; Emile Daraï

This case report raises the issue of the specific risk of chemotherapy with bevacizumab for ovarian cancer patients with bowel resection.

FOR RESIDENT'S EDITION

e17 Vulvar hematoma secondary to spontaneous rupture of the internal iliac artery: clinical review

Eleanor Egan; Philip Dundee; Nathan Lawrentschuk

Vulvar hematoma is uncommon and usually traumatic. In this case, it was spontaneous. Conservative management or selective arterial embolization with or without surgery are treatment options.

LETTERS TO THE EDITORS

e19 Endothelial progenitor cells and pregnancy

Carl A. Hubel

Reply, page e19

Qingzhong Xiao; Makrina D. Savvidou; Kypros H. Nicolaides

e20 Can physiologic hyperlipidemia during pregnancy be the culprit for atherogenesis in utero?

Ahmet Basaran

Reply, page e21

Antonio Liguori; Wulf Palinski; Claudio Napoli