OB/GYN & PEDIATRICS
CCC CORNER
Maternal Child Health for American Indians & Alaska Natives

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Trial of Labor After Cesarean

Results of a Well-Defined Protocol

OBJECTIVE: It has been claimed that a trial of labor after cesarean carries higher maternal and fetal risks than planned cesarean delivery. Because the management of such patients in our department differs from that described in some studies, and is perhaps more cautious, we hypothesized that the outcome may be better.

METHODS: We identified women with 1 previous low uterine segment cesarean who had delivered a cephalic singleton infant at gestational age 34 weeks or more from January 2000 through May 2005. Our policy is to encourage such women to undergo a trial of labor unless cesarean delivery is indicated. Unless otherwise indicated, our policy is to wait for spontaneous labor. We do not use prostaglandins, and recommend cesarean delivery if the cervix is unripe.(Bishop score < 6). We compared the outcome between women who underwent a trial of labor and women who underwent planned cesarean delivery.

RESULTS: A trial of labor was attempted by 841 women (80% successful), and 467 underwent planned cesarean delivery. Uterine rupture was observed in 1 woman 18 hours after vaginal delivery. There was no difference in major or minor maternal morbidity. There was no serious neonatal morbidity. Among the planned cesarean patients, hospital stay was longer, and there were more admissions to the neonatal intensive care unit.

CONCLUSION: With our well-defined protocol, a trial of labor after cesarean seems to be as safe for the mother and infant as planned cesarean delivery, and the hospital stay is shorter.

Gonen, R et al. Results of a Well-Defined Protocol for a Trial of Labor After Prior Cesarean Delivery. Obstet Gynecol. 2006 Feb;107(2):240-5.

OB/GYN CCC Editorial

The Indian Health system has just released a great new CME module on Vaginal Birth after Cesarean delivery. The free online module offers many helpful resources for clinical management and public health decision making, e. g., should my facility provide VBAC?

The module highlights the Northern New England Quality Improvement Network which has carefully looked at the literature and then applied it to clinical settings in New England. The CME/CEU module is available here: http://www.ihs.gov/MedicalPrograms/MCH/M/VB01.cfm

Risking system—Northern New England Perinatal Quality Improvement Network

Low Risk Patient:

- 1 prior low transverse cesarean delivery
- Spontaneous onset labor
- No need for augmentation
- No repetitive FHR abnormalities
- Patients with a prior successful VBAC are especially low risk.
  (However, their risk status escalates the same as other low risk patients)

Medium Risk Patient:

- Induction of labor
- Pitocin augmentation
- 2 or more prior low transverse cesarean deliveries*
- < 18 months between prior cesarean delivery and current delivery

(continued on page 15)

THIS MONTH

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In celebration of the Winter Solstice we added an icy blue background.
Solstice means "standing-still-sun." This planetary tilt is what causes all the drama and poetry of our seasons. Stay tuned for the Vernal Equinox, coming soon.

Also on-line....

This is a digest of the monthly Obstetrics and Gynecology Chief Clinical Consultant's Newsletter which is available on the Internet at: **www.ihs.gov/MedicalPrograms/MCH/M/OBGYN01.cfm**

Subscribe to the listserv and receive reminders about this service. If you have any questions, please contact me at **nmurphy@scf.cc**.

I look forward to hearing from you.

Neil J. Murphy
Dr. Neil Murphy
Ob/Gyn Chief
Clinical Consultant
(OB/GYN C.C.C.)

IHS Child Health Notes

February 2006

"It doesn't matter if the cat is black or white as long as it catches mice."
—Deng Hsaio P'ing 1904–1997

"There are two tragedies in life. One is to lose your heart's desire. The other is to gain it."
—George Bernard Shaw

Articles of Interest

A head-to-head comparison: "clean-void" bag versus catheter urinalysis in the diagnosis of urinary tract infection in young children. J Pediatr. 2005 Oct;147(4):451-6.

- A comparison of the validity of the urinalysis of clean voided bag specimens versus catheter obtained specimens in non–toilet trained children < 3 years of age
- Surprisingly, the bag specimens were more sensitive than catheterized specimens (85% versus 71%)
- Sensitivity was lower for both bag and catheter specimens in children < 90 days old (69% and 46%)
- Specificity was consistently lower for bag specimens than catheter samples (62% versus 97%)
- The authors conclude that for low risk children a bag specimen could be used as a screening test to determine which infants need to undergo catheterization for culture

Choice of urine collection methods for the diagnosis of urinary tract infection in young, febrile infants. Arch Pediatr Adolesc Med. 2005 Oct;159(10):915-22.

- This is a report from the Pediatric Research in Office Settings Febrile Infant Study
- A survey of the workup of 3066 infants < 90 days with a temperature > 38 C who presented to pediatric offices. Care was at the discretion of each provider
- Only 54% of infants had a urinalysis done at all
- Bag specimens were as sensitive as catheterized specimens but less specific
- Infection rates were similar in bag specimens (8.5%) versus catheterized specimens (10.8%)
- False positive cultures for bag urine cultures were reduced by defining many culture results as "ambiguous" (7%). Ambiguous cultures were defined as having > 1 organism, non pathogenic bacteria, or colony counts <1,000/cc
- The authors conclude that bag specimens are suitable for urine culture if practitioners do not treat ambiguous results as true UTI

Editorial Comment

These articles are full of angst about transurethral catheterization.

In both studies the authors regard urinary catheterization as very traumatic to patients and their parents. The authors also state that catheterization is technically difficult and unavailable in many offices which I found surprising. In this era of infant HIB and Pneumococcal vaccines UTIs are the most common serious bacterial infections in children. We should try and diagnose them correctly.

The first step is to obtain urine when indicated. It was surprising that only 50% of febrile infants < 90 days had urine obtained when presenting to an office setting. Even a bag specimen would be better than nothing recognizing that the urinalysis has a much lower sensitivity in infants < 90 days. The second problem is that a bag specimen that is falsely positive in this young age group may lead to hospitalization. The needless hospitalization will not be sorted out until 48 hours later with a negative culture or an "ambiguous" culture that is defined as negative.

It seems reasonable to obtain catheterized specimens on all children < 90 days in which a high degree of specificity is required to avoid unnecessary hospitalization. For children > 1 year of age, without a previous UTI, a bag specimen might be an acceptable screening tool. Between 90 days and 1 year of age I would favor catheterization but each practitioner will need to make their own determination based on the risk/benefit to the patient and their clinic's skill at catheterization. More important than the method of urine collection, is the acknowledgement that a urine sample must be obtained in young children who are highly febrile and have no identifiable source for their fever.

Infectious Disease Updates.

Rosalyn Singleton, MD, MPH

Making sense of the 2006 Immunization Schedule

The 2006 Immunization Schedule is now available at www.cdc.gov/mmwr/pdf/wk/mm5451-Immunization.pdf. True to form, the new schedule looks to be even more complex than 2005. While our eyes are crossing over the many columns and colored bars, how do we decide on the essentials. Here's a schedule that reflects some IHS priorities—they may differ slightly for you.

Birth	The birth dose of hep B is a great safety net to prevent vertical transmission.
2 Months	DTaP, IPV, HepB, Hib, PCV7. We give the 3 P's—Pediarix™, Pedvax®, Prevnar®
4 Months	DTaP, IPV, Hib, PCV7. We give the 3 P's—extra dose of Hep B is ok.
6 Months	DTaP, IPV, HepB, PCV7. We give the 2 P's—Pediarix™ and Prevnar®.
12 Months	Hib, MMR, Var, PCV7 (now there's MMR-V)
15 Months	DTaP, HepA - both can be given as early as 12 months, but that's a lot of shots
24 Months	(or any visit at least 6 months after the first Hep A) - Hep A 2
4–6 Years	DTaP, IPV, MMR
11–12 Years	Tdap, Menactra™ (depending on supply)

Other issues:

1. Because of high risk of early Hib disease PedvaxHIB is the preferred product for Hib vaccination in Native Americans. It is the only Hib vaccine that produces protective titers after the first dose. In Alaska, a change to Hibtiter in 1996 resulted in increased Hib cases in partially vaccinated children.
2. Recommend booster doses of Hib and PCV7 at 12 months since titers fall rapidly after primary series and breakthrough cases have occurred.
3. Influenza at any visit for 6-23 month olds—2nd dose the first year.
4. Tdap was just licensed for adults as well as adolescents and can be given as early as 2 years after a Td vaccine in the event of an outbreak.

Recent literature on American Indian/ Alaskan Native Health

Doug Esposito, MD

Beyond Red Lake—the persistent crisis in American Indian health care. N Engl J Med. 2005;353:1881-3.

Editorial Comment

The author, who is an American Indian physician, describes many of the disparities in socioeconomic and health status and access to services faced by AI/AN populations living on reservations, in very personal terms. This is a short article restating what all of us working in Indian Health already know. Nevertheless, it's worth reading, as is the commentary by David Grossman, MD cited below, which focuses more on the plight of the urban off-reservation Indian.

Additional Reading

Measuring disparity among American Indians and Alaska Natives; who's counting whom? Med Care. 2003;41(5):579-81.

Article

American Indians and suicide: a neglected area of research. Trauma Violence Abuse. 2006 Jan;7(1):19-33.

Editorial Comment

The authors review the available literature, embellished with information from personal communications with experts and leaders in the field, to paint a picture of the current status of suicide in AI/AN communities. Although the term "suicide" appears in the title, this paper is actually more of a review of the overall state of knowledge and service (or, more correctly, under service) of mental and behavioral health issues in general for the specified population. This is a well done paper, and a valuable resource for anyone interested in planning suicide studies or interventions among AI/AN populations, or for anyone just interested in understanding the scope of the mental and behavioral health issues and needs of Native Americans.

Follow-up

In follow up to my review of the subject of Pediatric Oral Health Therapists for American Indian/Alaska Native children in October (www.ihs.gov/MedicalPrograms/MCH/C/documents/ICHN1005.doc), I would like to point out a few commentaries that appeared in the December 2005 issue of the American Journal of Public Health. The argument rages on! So, where do you stand?

Improving the oral health of Alaska natives. Am J Public Health. 2005;95(11):1880.

APHA presidents support dental therapists. Am J Public Health. 2005;95(11):1880-1.

Sekiguchi et al. respond. Am J Public Health. 2005;95(11):1881.

Announcements from the AAP Indian Health Special Interest Group

Sunnah Kim, MS

Locums Tenens and Job Opportunities

If you have a short or long term opportunity in an IHS, Tribal or Urban facility that you'd like for us to publicize (i.e. AAP Web site or complimentary ad on Ped Jobs, the official AAP online job board), please forward the information to:

indianhealth@aap.org

or complete the on-line locum tenens form at:

www.aap.org/nach/locumtenens.htm

From Your Colleagues

Continued frequent screening of women with normal pap: Costly and benefits limited

CONCLUSION: As the number of prior normal Pap tests increases, the costs per life-year saved increase substantially. Resources should be prioritized for screening those never or rarely screened women. LEVEL OF EVIDENCE: II-2.

Kulasingam SL et al Cost-effectiveness of Extending Cervical Cancer Screening Intervals Among Women With Prior Normal Pap Tests. Obstet Gynecol. 2006 Feb;107(2):321-328.

Nancy Brannin, Santa Fe

Oral misoprostol for cervical priming in non-pregnant women

I read about the misoprostol for hysteroscopy in CCC Corner, and wanted to pass along that the midwives on the ACNM clinical listserv just had a discussion of using it for two other purposes:

1.) IUD insertion in nulliips (including previous C/S but never dilated).
2.) EMBs, or even Paps, in postmenopausal women with stenotic cervices

One gives 400 mcg to take the night before the insertion, and it makes it much easier and less traumatic

Oral misoprostol for cervical priming in non-pregnant women

Endometrial biopsy and hysteroscopy are important investigations in women presenting with abnormal vaginal bleeding. Endometrial biopsy is often performed as an outpatient procedure by endometrial aspiration. Difficulty in entering the internal cervical os may be encountered, especially in nulliparous women. The same problem may occur during hysteroscopy or dilatation and curettage. It is well known that use of a cervical priming agent is effective in reducing complications during cervical dilatation in pregnant women. However, its use in non-pregnant women is not well established. We compared oral misoprostol versus placebo for a cervical priming effect in non-pregnant women prior to hysteroscopy. The cumulative force required for cervical dilatation was significantly lower whereas the baseline cervical dilatation was significantly greater in the misoprostol group. We conclude that oral misoprostol is effective for pre-operative cervical dilatation in non-pregnant women.

Ngai SW, et al Oral misoprostol for cervical priming in non-pregnant women. Hum Reprod. 1997 Nov;12(11):2373-5.

Judy Thierry, HQE

Please welcome Roy Hoffman

Roy is on a 2 month MCH program rotation on Children with Special Health Care Needs.

Please welcome Roy Hoffman, MD, MPH, FAAP—a Preventive Medicine resident from Johns Hopkins University. Roy graduated medical school from the State University of New York at Stony Brook and completed a pediatrics residency at the Children's Hospital of Pittsburgh. Before starting his second residency in preventive medicine, he worked for a year as a contract pediatrician with the IHS at both Fort Defiance Indian Hospital and Blackfeet Community Hospital. He will be doing a practicum rotation at IHS headquarters in Maternal Child Health under Dr. Judith Thierry from mid February to mid April. The focus of his rotation project will be to look more closely at AI/AN children with special health care needs (CSHCN). He will be analyzing the data already collected by the National Center for Health Statistics as part of the National Survey of Children's Health (NSCH). A telephone interview survey of parents, NSCH includes over 60 measures: Physical and Dental Health, Emotional and Mental Health, Health Insurance Coverage; Health Care Access and Quality, Community and School activities, Family health and Activities, and Neighborhood Safety and support. Judith.Thierry@ihs.gov

Hot Topics:

Obstetrics

Term breech trial: The original term breech trial recommendations should be re-evaluated

OBJECTIVE: On the basis of the end points of neonatal morbidity and death, the authors of the term breech trial concluded unequivocally that cesarean delivery was safer for breech babies.

STUDY DESIGN: Analysis of the original and new data gives rise to serious concerns as far as study design, methods, and conclusions are concerned. In a substantial number of cases, there was a lack of adherence to the inclusion criteria. There was a large interinstitutional variation of standard of care; inadequate methods of antepartum and intrapartum fetal assessment were used, and a large proportion of women were recruited during active labor. In many instances of planned vaginal delivery, there was no attendance of a clinician with adequate expertise.

RESULTS: Most cases of neonatal death and morbidity in the term breech trial cannot be attributed to the mode of delivery. Moreover, analysis of outcome after 2 years has shown no difference between vaginal and abdominal deliveries of breech babies.

CONCLUSION: The original term breech trial recommendations should be withdrawn.

Glezerman M. Five years to the term breech trial: the rise and fall of a randomized controlled trial. Am J Obstet Gynecol. 2006 Jan;194(1):20-5

OB/GYN CCC Editorial

This review joins a growing body of literature that raises serious questions about the Hannah term breech trial that concluded unequivocally that cesarean delivery was safer for breech babies. One of the major questions is the reasons for the Hannah results may have been the short term nature of their follow-up. Other studies have shown outcomes after 2 years that show no difference between vaginal and abdominal deliveries of breech babies. We all need to critically follow this growing body of literature so that we can adequately counsel our patients.

Obstetric Characteristics Predict Risk of Sudden Infant Death Syndrome

CONCLUSIONS: A model that uses maternal characteristics and outcome at birth is predictive of the risk for SIDS. This model is presented in a simple form that allows calculation of the individual risk for SIDS.

Smith GC, White IR. Predicting the risk for sudden infant death syndrome from obstetric characteristics: a retrospective cohort study of 505,011 live births. Pediatrics. 2006 Jan;117(1):60-6.

Gynecology

Superiority of Liquid-Based Cytology for Cervical Screening Questioned

INTERPRETATION: We saw no evidence that liquid-based cytology reduced the proportion of unsatisfactory slides, or detected more high-grade lesions in high-quality studies, than conventional cytology. This review does not lend support to claims of better performance by liquid-based cytology. Large randomised controlled trials are needed.

Davey E et al Effect of study design and quality on unsatisfactory rates, cytology classifications, and accuracy in liquid-based versus conventional cervical cytology: a systematic review. Lancet. 2006 Jan 14;367(9505):122-32.

LEEP: Treatment of Cervical Neoplasia Linked to Preterm Births

CONCLUSION: Women with a history of LEEP, cold knife conization, and cryotherapy all independently have shorter cervical lengths than low-risk controls and similar lengths to women with previous spontaneous preterm birth. Loop electrosurgical excision procedure and cold knife conization are associated with spontaneous preterm birth less than 37 weeks, and transvaginal ultrasonography predicts preterm birth in women who have had LEEP. LEVEL OF EVIDENCE: II-2.

Crane JM, et al Transvaginal Ultrasonography in the Prediction of Preterm Birth After Treatment for Cervical Intraepithelial Neoplasia. Obstet Gynecol. 2006 Jan;107(1):37-44.

OB/GYN CCC Editorial

This is a recurrent finding. The CCC Corner has reported the same finding as recently as September 2004. To repeat…

For young women who have not yet completed reproduction, LEEP may not be the best therapeutic option for treating CIN, especially of low malignant potential. Women who clearly require surgical intervention may be better served with other procedures, such as cryotherapy, or observation.

LEEP—not the best for treating young women who have not completed reproduction
www.ihs.gov/MedicalPrograms/MCH/M/OBGYN0904_HT.cfm#gyn

Treatment for cervical intraepithelial neoplasia and risk of preterm delivery
www.ihs.gov/MedicalPrograms/MCH/M/OBGYN0904_HT.cfm#ob

Preterm Labor and PPROM: Perinatology Corner (see Background)
www.ihs.gov/MedicalPrograms/MCH/M/PTL_2.cfm

Child Health

Broad-spectrum antibiotics during labor linked to late-onset serious infections in infants

Group B Streptococcus (GBS) infection can cause a life- ➔

Child Health

Over Bundling: Winter and SIDS

The National Institute of Child Health Development Releases an Alert to Parents to Winter SIDS Risk and Updated AAP Recommendations According to the National Institute of Child Health and Human Development (NICHD), the number of infants who die from Sudden Infant Death Syndrome, or SIDS, increases in the cold winter months. During these colder months, parents often place extra blankets or clothes on infants, hoping to provide them with more warmth. In fact, the extra material may actually increase infants' risk for SIDS.

www.nih.gov/news/pr/jan2006/nichd-18.htm

➔threatening blood infection and meningitis in newborns. Over one-third of women receive antibiotics during labor to prevent the transmission of GBS from themselves to their newborns. Intrapartum antibiotics (IPA) have been very successful in preventing early-onset (first week of life) neonatal GBS infection. However, a new study shows a relationship between exposure to broad-spectrum IPA and occurrence of late-onset (7-90 days after birth) serious bacterial infections (SBIs).

Considering all types of IPA, nearly twice as many case infants (41 percent) than control infants (27 percent) had been exposed to IPA, after controlling for hospital of delivery and other factors. The association was much stronger when IPA was with broad-spectrum antibiotics. Bacteria that were isolated from infected infants who had been exposed to IPA were nearly 6 times more likely to exhibit ampicillin resistance, but not resistance to other antibiotics commonly used to treat SBI in infants. The researchers recommend that clinicians find out infants' exposure to IPA when they are seen for late-onset SBI, so that they can gauge which antibiotics will be more effective for treatment.

Glasgow TS, et al. Association of intrapartum antibiotic exposure and late-onset serious bacterial infections in infants. Pediatrics September 2005, 116(3): 696-702.

Chronic disease and Illness

Dietary intervention alone of little benefit in preventing disease

CONCLUSIONS: Over a mean of 8.1 years, a dietary intervention that reduced total fat intake and increased intakes of vegetables, fruits, and grains did not significantly reduce the risk of CHD, stroke, or CVD in postmenopausal women and achieved only modest effects on CVD risk factors, suggesting that more focused diet and lifestyle interventions may be needed to improve risk factors and reduce CVD risk.

Howard BV et al Low-fat dietary pattern and risk of cardiovascular disease: the Women's Health Initiative Randomized Controlled Dietary Modification Trial.

OB/GYN CCC Editorial

This study does not prove that diet has not impact on cardiovascular disease. Rather than total calories of fat consumed, we should monitor the type of fat, e .g.. trans fats vs monounsaturated fats, total calories, other modifiable lifestyle changes, e. g., exercise, smoking. Here are some thoughts for experts in the field.

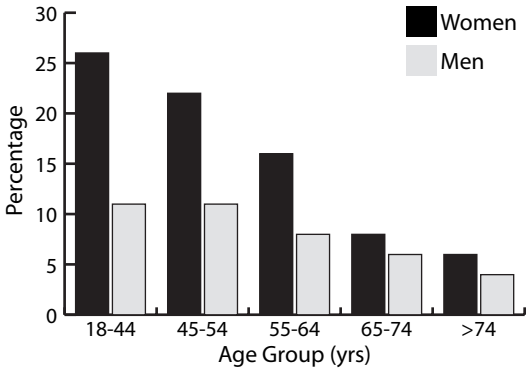
"It would be easy to misinterpret the results of this study, and it is important that we get it right," Dr. Robert H. Eckel, president of the American Heart Association, said in a press statement. "Reducing the risk of cardiovascular disease is about following an integrated lifestyle program, rather than concentrating solely on dietary composition."

"To achieve a significant public health impact on CVD events, a greater magnitude of change in multiple macronutrients and micronutrients and other behaviors that influence CVD risk factors may be necessary," Dr. Howard's group writes.

In a related editorial, Dr. Cheryl A. M. Anderson and Lawrence J. Appel from Johns Hopkins University in Baltimore remark that the WHI study did not address dietary measures that might have had a greater impact in reducing CVD, such as reducing salt and saturated fats and increasing potassium and polyunsaturated fats. Even though most of the participants were overweight or obese, the trial did not focus on lifestyle interventions that could have had an influence, including weight loss, physical activity, and avoiding tobacco exposure.

Percentage of Persons Aged >18 Years Reporting Severe Headache or Migraine

In 2004, the percentage of adults who experienced a severe headache or migraine during the preceding 3 months decreased with age, from 18% among persons aged 18-44 years to 6% among persons aged >75 years. In every age group, the proportion of women who experienced severe headache or migraine was greater than that of men.



Features

American Family Physician**

Vaginal Birth after Cesarean (continued from Abstract of the Month)

Recommendations for TOLAC: American Academy of Family Practice

1. Women with one previous cesarean delivery with a low transverse incision are candidates for and should be offered a trial of labor. [SORT rating A]
2. Patients desiring TOLAC should be counseled that their chance for a successful VBAC is influenced by the following factors: [SORT rating B]

Positive factors (increased likelihood of successful VBAC)

- Maternal age less than 40 years
- Prior vaginal delivery (particularly prior successful VBAC)
- Favorable cervical factors
- Presence of spontaneous labor
- Nonrecurrent indication that was present for prior cesarean delivery

Negative factors (decreased likelihood of successful VBAC)

- Increased number of prior cesarean deliveries
- Gestational age greater than 40 weeks
- Birth weight greater than 4,000 g (8 lb, 13 oz)
- Induction or augmentation of labor

3. Prostaglandins should not be used for cervical ripening or labor induction, because their use is associated with higher rates of uterine rupture and decreased rates of successful vaginal delivery. [SORT rating B]
4. TOLAC should not be restricted to maternity care facilities with available surgical teams present throughout labor, because there is no evidence that these additional resources result in improved outcomes.* [SORT rating C] At the same time, it is clinically appropriate that a management plan for uterine rupture and other potential emergencies requiring rapid cesarean delivery should be documented for each woman undergoing TOLAC. [SORT rating C]
5. Maternity care professionals need to explore all issues that may affect a woman's decision (e.g., recovery time, safety). [SORT rating C] No evidence-based recommendation can be made about the best way to present the risks and benefits of TOLAC to patients.

TOLAC = trial of labor after cesarean delivery; VBAC = vaginal birth after cesarean delivery.

-"Maternity care facilities" refers to birthing facilities with labor and delivery units that have the capacity to provide appropriate monitoring and to provide a timely cesarean delivery when needed.

patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, see page 1949 or www.aafp.org/afpsort.xml

Adapted from Wall E, Roberts R, Deutchman M, Hueston W, Atwood LA, Ireland B. Trial of labor after cesarean (TOLAC), formerly trial of labor versus elective repeat cesarean delivery for the woman with a previous cesarean delivery.

> *"a management plan for uterine rupture and other potential emergencies requiring rapid cesarean delivery should be documented for each woman undergoing TOLAC"*

AAFP Guidelines for TOLAC

Guidelines for TOLAC, based on patient-centered outcomes (morbidity, mortality, symptoms, cost, and quality of life), were developed by an AAFP Task Force and published on the AAFP Web site in July 2005. The guidelines apply to women with a history of 1 cesarean section and low transverse incision. The grade levels of the evidence used in the guidelines are as follows:

- Grade A—Good-quality studies with patient-oriented evidence
- Grade B—Inconsistent or limited patient-oriented evidence
- Grade C—Case series, consensus, usual practice or opinion

➔

Primary Care Discussion Forum

Cardiology Topics for Primary Care Providers—February 15, 2006

Moderator:
Jim Galloway, MD
Director,
Native American Cardiology Program

Here are some of the topics to be discussed:

- Role of CRP in cardiac evaluation
- Should we all take statins? or get out of our chairs, work out, lose weight, diet and get fitness religion?
- Lipid screening guidelines in non-smoking non-diabetic Native Americans
- Newer cardiac imaging techniques (MRI, CT angio) over traditional catheterization procedures.

How to subscribe/ unsubscribe to the Primary Care Discussion Forum?

Subscribe to the Primary Care listserv
www.ihs.gov/cio/listserver/index.cfm?module=list&option=list&num=46&startrow=51

Chronic Illness

Cold Sores: Famciclovir for the Treatment of Recurrent Genital and Labial Herpes Lesions

Famciclovir (Famvir, Novartis) is an effective treatment for herpes zoster and herpes simplex. Two separate studies recently examined the effectiveness of single high doses of famciclovir for treating recurrent genital herpes and labial herpes (cold sores). In the randomized, placebo-controlled studies, patients initiated treatment at the first onset of symptoms. For the treatment of genital herpes, a 1,000 mg b.i.d. dose of famciclovir had significant advantages over the placebo, reducing the time required to heal the lesions, preventing the development of lesions beyond the papule stage, and improving the time to resolution of all symptoms. For the treatment of labial herpes, a single 1,500 mg dose of famciclovir shortened the lesion healing time, shortened the time to normal skin, and resulted in faster resolution of pain and tenderness.

Langley RG. Famciclovir for the treatment of recurrent genital and labial herpes lesions. Skin Therapy Lett. 2005 Dec-2006 Jan;10(10):5-7.

➔ Summary of the Literature

Seventy-six percent of women undergoing TOLAC are likely to succeed. Seven observational studies found a reduced success rate (63%) when induction with oxytocin or augmentation was used, and success was reduced even further to 51% if prostaglandins were used for induction. Risk for uterine rupture increased slightly with TOLAC when induction or augmentation was used.

Maternal death and infant mortality did not differ between TOLAC and repeated cesarean section. Infection rates were reported as higher with failed TOLAC than with repeated cesarean section (8% vs 3.5%). Risk for uterine rupture was estimated at 4.8 per 10,000 women with or without TOLAC. Risk for infant death from uterine rupture was reported at 1.5/100,000. There was no literature on quality-of-life issues related to VBAC.

Risk-assessment tools (2 validated scoring systems were identified) [5, 6] were only partially useful in predicting successful vaginal delivery. Individual factors found to be associated with improved outcomes included demographic (younger than 40 years), delivery (spontaneous labor, nonrecurrent indication for delivery), medical (absence of diabetes) and cervical factors. Overall, teaching hospitals had a higher success rate with TOLAC than did community hospitals. The influence of TOLAC counseling on patient decision-making was unclear, as reported in 1 recent review. [7] Dr. Wall suggested that additional factors to consider include perceived recovery time, presence of children at home, partner availability, perceived breastfeeding success, and safety.

Future Research Agenda

Given the limitations of the existing literature,[8,9] here are issues for a future research agenda:

- The definition of uterine rupture should be standardized. Definitions are currently inconsistent across studies. For example, uterine dehiscence is included within the definition for some studies, making comparisons across studies challenging.
- Validated instruments for measuring quality of life for mothers (including ability to care for the family after delivery) are not available. Long-term issues, such as pelvic floor function and, again, impact on families, are not considered.
- Development of decision support and shared decision-making tools is needed.
- Specific management plans appropriate for uterine rupture should be developed. It is not certain from the literature if more rapid intervention improves outcomes during labor.
- New technologies should be aimed at identifying women at high risk for TOLAC failure and should increase the ability to predict morbidity and uterine rupture (eg, locating the placenta with imaging, or examining the thickness of the lower uterine wall).

Subsequent Data

Vaginal delivery was attempted by 17,898 women, and 15,801 women has elective repeated cesarean delivery without labor. Symptomatic uterine rupture occurred in 124 women who underwent a trial of labor (0.7%). Hypoxic-ischemic encephalopathy occurred in no infants whose mothers underwent elective repeated cesarean delivery and in 12 infants born at term whose mothers underwent a trial of labor (P<.001). Seven of these cases of hypoxic-ischemic encephalopathy followed uterine rupture (absolute risk, 0.46 per 1000 women at term undergoing a trial of labor), and 2 involved death of the infant.

The rate of endometritis was higher in women undergoing TOLAC than in women undergoing repeated elective cesarean delivery (2.9% vs 1.8%), as was the rate of blood transfusion (1.7% vs 1.0%). The frequency of hysterectomy and of maternal death did not differ significantly between groups (0.2% vs 0.3%, and 0.02% vs 0.04%, respectively). The study concluded that TOLAC is associated with a greater perinatal risk than is elective repeated cesarean delivery without labor, although absolute risks are low. This information is relevant for counseling women about their options after cesarean section.

References available online.

AHRQ

Nearly half of urban AI/AN travel back to their reservation to visit during the year

The health of American Indians and Alaska Natives (AI/ANs) is worse than that of the general population in the United States, with a life expectancy nearly 5 years lower. Of the more than two million AI/ANs living in the United States today, only 25 percent reside on reservations, while 60 percent live in cities. Those who live in cities often travel to reservations, yet little is known how this travel may be related to health. This study is one of the few to provide information on AI/AN travel to reservations and its relationship to health status and use of health services among urban AI/ANs.

Researchers surveyed more than 500 AI/AN adults at a primary care clinic in Seattle about time spent visiting a reservation during the past year, and sociodemographic, cultural, and clinical characteristics. Thirty-four percent of respondents had spent up to 30 days traveling, 14 percent had spent more than 30 days traveling, and 52 percent had not traveled to reservations. Strong Native American cultural identification, presence of lung disease, absence of thyroid or mental problems, and greater dissatisfaction with care were independently associated with more travel to reservations.

Reservation visits were not consistently linked to self-reported health outcomes, nor could the researchers determine how often respondents traveled to the reservation for health care. The findings underscore the importance of considering the role of culture as well as residence and patterns of travel in both research and clinical care involving AI/ANs.

Rhoades DA, et al. Characteristics associated with reservation travel among urban Native American outpatients, Journal of Health Care for the Poor and Underserved August 2005 464-474.

Ask a Librarian

Diane Cooper, M.S.L.S./NIH

Birth News Highlights

Young mothers: Birth rates for US women age10-14 were up slightly in 2004, the latest CDC report indicates. However, for American Indian women age 10-14, the rate was lower (0.9 live births per 1,000 women). AI women had a 10% decrease from 2003 to 2004, and, in fact, were the only group that had a decrease. In order, by populations groups, from lowest to highest birth rate in age 10-14 year olds: Non-Hispanic white and Asian or Pacific Islander (tied); American Indian; Hispanic; non-Hispanic black.

VBACS DOWN: American Indian women had the highest rate of vaginal births after previous cesarean, 13.3 per 100 live births, in the latest available data. The rate was down from 2003 (14.1). Nationwide, the rate was down from 10.6 in 2003 to 9.2 in 2004.

EARLY CARE: About 70% of AI pregnant women received prenatal care in the first trimester, the lowest percentage of any population group. Among non-Hispanic whites, about 90% received care in the first trimester. AI women also had the highest percentage who received no care or care in the 3rd trimester: about 8%.

LOW BIRTH WEIGHT: The rate of low birth weight births in the AI population was in the middle among population groups. Populations with lower low birth rates: Hispanic and non-Hispanic white; populations with higher rates: Asian or Pacific Islander, and, at almost double the AI rate, non-Hispanic black. Contact **cooperd@mail.nih.gov**

National Vital Statistics Report 2005 Dec; 54(8); 1-17

Information Technology

What is the latest on an OB/GYN solution for the PCC, PCC+ and EHR?

An OB solution is funded and in progress for this year. The following is a non-binding plan:

Our goal is to provide a seamless MCH module for PCC, PCC+ and EHR /this fiscal year. The plan is to start OB as soon as well child is done. Most likely the OB portion will start this Spring. The non-GUI portions of well child are ready to go except for the pt ed codes. Also waiting for alpha test site selection. We have started work on the GUI portions of well child including the ASQ_sub-module. Once we learn how to do this, it will be possible to move on with the OB components for EHR. Stay tuned for further progress.

Theresa.Cullen@IHS.GOV

Midwives Corner

Jenny Glifort, CNM and Marsha Tahquechi, CNM

When Should We Clamp the Umbilical Cord? Preterm vs Term Infants

Philip and Saigal in their 2004 review article and a 2004 Cochrane Review reveals that in 24-36 week infants delaying cord clamping may be associated with fewer transfusions for anemia or low blood pressure, and less intraventricular hemorrhage than early clamping. In addition, delayed clamping may help some infants in developing countries.

On the other hand, delayed cord clamping should be avoided in infants of diabetic mothers, IUGR, and infants with cardiovascular or pulmonary conditions. In the majority of infants, e.g., near term and term infants, delayed clamping does not produce significant benefit/harm, but has been associated with unnecessary adverse effects in numerous small studies.

In addition, a 2005 Cochrane Review reported that in term patients, there does appear to be some potential benefit from the use of immediate placental cord drainage in terms of reducing the length of the third stage of labour. More research is required to investigate the impact of cord drainage on the management of the third stage of labour

OB/GYN CCC Editorial comment:

In June 2005 the CCC Corner previously reported fewer transfusions for anemia or low blood pressure, and less intraventricular hemorrhage in preterm infants with delayed cord clamping 30 -120 seconds. It should be noted that these findings and those reported by Philip and Saigal and the Cochrane Review are based on limited data, e.g., seven studies with 225 infants.

We should use caution in applying delayed cord clamping outside the setting of selected preterm infants.. In addition, early cord clamping is associated with untoward effects in one of our more frequent medical complications in AI/AN women, e.g., infants of diabetic mothers. Delayed cord clamping should not be applied universally, due to the lack of benefit in term, or near term infants

To further complicate the issue of delayed cord clamping, a second Cochrane Review reports potential maternal benefit from the use of placental cord drainage in terms of reducing the length of the third stage of labor.

I suggest we continue to follow the literature on this issue closely and apply delayed cord clamping only in the few selected preterm settings where clinically proven benefit has been documented.

Resources

June 2005 CCC Corner. Obstetric Hot Topics: Slight delay in umbilical cord clamping better for preterm infants

Rabe H, Reynolds G, Diaz-Rossello J. Early versus delayed umbilical cord clamping in preterm infants. The Cochrane Database of Systematic Reviews 2004, Issue 4. Art. No.: CD003248.pub2. DOI: 10.1002/14651858.CD003248.pub2.

Soltani H, Dickinson F, Symonds I. Placental cord drainage after spontaneous vaginal delivery as part of the management of the third stage of labour. The Cochrane Database of Systematic Reviews 2005, Issue 4. Art. No.: CD004665.pub2. DOI: 10.1002/14651858.CD004665.pub2.

Philip and Saigal. When Should We Clamp the Umbilical Cord? Neoreviews.2004; 5: 142-154

Liability in triage: management of EMTALA regulations and common obstetric risks

To clear up any misconceptions, I am following up on this topic from the December and February CCC Corners. The following information is paraphrased from Angelini DJ, Mahlmeister LR. Liability in triage: management of EMTALA regulations and common obstetric risks. J Midwifery Womens Health. 2005 Nov-Dec;50(6):472-8. It is not necessarily the opinion of the Indian Health system or other agencies, unless otherwise stated.

Two key points:

According to Angelini in the EMTALA setting a physician has to certify that a patient is in 'false labor', but with careful consultation a 'qualified medical person' can sign that certification after consulting with a physician who authorizes the patient's care. The physician must countersign the certification as contemporaneously as possible, e. g., 24 hours.

Further, it is the hospital that designates who is a 'qualified medical person' to provide appropriate medical screening. The 'qualified medical person' can be a non-physician, e.g., CNM, or RN, etc… If properly applied, then a system of cooperation between the nurses, CNMs, and physicians can easily be devised and be within compliance with the EMTALA directives. Adequate documentation is the key to success. Each facility should review the Resources below. The L/D or Triage team should come to agreement, and then implement a cohesive plan. In the meantime, the ACNM is working on changing the Federal regulations to allow CNMs to be able to directly diagnose 'false labor' in EMTALA settings.

The ACNM is actively pursuing a revision of the above regulations. The Technical Advisory Committee met on June 15-17, 2005. The Minutes reflect the ACNM proposed changes. The complete minutes can be found below or contact Deanne Williams, Exec. Director, ACNM

http://new.cms.hhs.gov/FACA/07_emtalatag.asp

CCC Editorial Comment:

The regulations make no specific provision for how or whether the physician may certify false labor by telephone based on ➔

➔information received from the qualified medical personnel by telephone. Hence, you should consult your administrative staff, plus all stakeholders at your facility and then develop thorough guidelines to support your local process….and then live by those guidelines, e.g., document, document, document.

Resources:

G. Freeman, Final EMTALA rule lessens risk, yet getting docs on-call still a problem, Healthcare Risk Manage 25 (2004), pp. 109–113.

D. Glass, J. Rebstock and E. Handberg, Emergency treatment and labor act (EMTALA). Avoiding the pitfalls, J Perinat Neonatal Nurs 18 (2004), pp. 103–114

Emergency Medical Treatment and Labor Act. Definitions: Emergency medical condition. 42 C.F.R. § 489.24 (b) (1). Available from: **www.emtala.com/law/index.html**

Department of Health and Human Services Centers for Medicare and Medicaid Services C42 CFR Parts 413, 482, and 489, Clarifying policies related to the responsibilities of medicare participating hospitals treating individuals with emergency medical conditions: Final rule. Part II. Federal Register Vol 68 (2003) September 9, No 174.

Emergency Medical Treatment and Labor Act. Examinations and treatment for emergency medical conditions and women in labor. 42 U.S.C. § 1395dd (1).

CENTERS FOR MEDICARE & MEDICAID SERVICES website **http://new.cms.hhs.gov/**

Withholding coaching during maternal pushing is not harmful

CONCLUSION: Although associated with a slightly shorter second stage, coached maternal pushing confers no other advantages and withholding such coaching is not harmful.

Bloom SL A randomized trial of coached versus uncoached maternal pushing during the second stage of labor. Am J Obstet Gynecol. 2006 Jan;194(1):10-3.

Injuries to the Brachial Plexus: Mechanisms and Management

The February Midwives Corner offers a follow up to last month's shoulder dystocia column. Last month's column focused on strategies to prevent shoulder dystocia. The 'CCC deliver through maneuver' for shoulder dystocia prevention was also introduced.

This following is an introduction to a two part series on brachial plexus injuries presents a comprehensive review of this complication of vaginal birth.

Part 1 focus' on the fetal neuroanatomy and embryological development of the brachial plexus in relationship to the sequelae of physical disabilities seen after an injury resulting from birth. Antenatal and intrapartum risk factors as well as a classification of brachial plexus injuries are discussed.

Part 2 reviews the physical characteristics of brachial plexus injuries that result in the various palsies based on the severity of injury. Recommendations are made for the medical and nursing management of brachial plexus injuries and the long term outcomes for these infants.

Benjamin K Part 1. Injuries to the brachial plexus: mechanisms of injury and identification of risk factors. Adv Neonatal Care. 2005 Aug;5(4):181-9.

Benjamin K. Part 2. Distinguishing physical characteristics and management of brachial plexus injuries. Adv Neonatal Care. 2005 Oct;5(5):240-51.

Centering Association National Conference
March 26-29 2006, Chapel Hill, NC

From the Centering Pregnancy and Parenting Association! To learn more about whom else is providing GROUP PRENATAL CARE and the challenges and victories they've experienced and what strategies will help build stronger relationships within prenatal care groups.

Brochure and on line registration:
www.centeringpregnancy.org

Cesarean Delivery on Maternal Request

- March 27-29, 2006
- Bethesda, MD, or webcast
- NIH State-of-the-Science Conference
- **www.ihs.gov/MedicalPrograms/MCH/F/CN01.cfm#Mar06**

Breastfeeding

Suzan Murphy, PIMC

Dose-dependent association—duration of breastfeeding and risk of overweight

Results

By meta-regression, the duration of breastfeeding was inversely associated with the risk of overweight (regression coefficient=0.94, 95% confidence interval (CI): 0.89, 0.98). Categorical analysis confirmed this dose-response association (<1 month of breastfeeding: odds ratio (OR)=1.0, 95% CI: 0.65, 1.55; 1-3 months: OR=0.81, 95% CI: 0.74, 0.88; 4-6 months: OR=0.76, 95% CI: 0.67, 0.86; 7-9 months: OR=0.67, 95% CI: 0.55, 0.82; >9 months: OR=0.68, 95% CI: 0.50, 0.91). One month of breastfeeding was associated with a 4% decrease in risk (OR=0.96/month of breastfeeding, 95% CI: 0.94, 0.98). The definitions of overweight and age had no influence.

Conclusion

These findings strongly support a dose-dependent association between longer duration of breastfeeding and decrease in risk of overweight.

Harder T Duration of breastfeeding and risk of overweight: a meta-analysis. Am J Epidemiol 2005 Sep 1;162(5):397-403.

Featured Website

David Gahn, IHS Women's Health Web Site Content Coordinator—MCH Website Gets a Facelift

In response to your requests for a more usable and access-friendly website…the OIT staff, with assistance from the websites content coordinators, have redesigned the Maternal Child Health Websites.

I invite you to browse through the pages and let me know how useful they are in both your clinical practice and other research and HP/DP programs. The pages are updated regularly with up to date clinical information you are sure to find beneficial for our patients.

MCH Portal

The MCH Portal gives you really easy access to all the main resources

Features:

1 Site map: It's A-Z…no more problems with where this or that resource is
2 Frequently Asked Questions: A-Z…got more questions? Please let us know
3 What's New: Find out what has been added since you last used this web site
4 CCC Corner newsletter: You should at least scan this resource every month
5 Easy access to Main pages: MCH, Women's Health, DV, Female Health Systems
6 UpToDate: The UpToDate link is in the top left corner, easy to see
7 Clinical Information Resources: Virtual online library for Indian Health staff
8 Clinical Guidelines: What has worked for your Indian Health colleagues?

Maternal Child Health

The new MCH page contains a variety of information pertaining to the health of women during the reproductive years as well as early childhood issues

Features:

1 Perinatology Corner: Free CME /CEU modules on latest OB topics
2 Pregnancy page: Good resources, organized in A–Z order
3 Evidence Based Medicine: Cochrane, AHRQ, SORT, etc…
4 Sexually transmitted infections
5 Nurse Midwives page
6 MCH Coordinators page
7 Family Planning
8 Indian Child Health Notes: Monthly newsletter from Pediatric CCC and colleagues
9 Breastfeeding page: New redesign to be released soon
10 Cultural Appropriateness

Female Health Systems

The new Female Health Systems contains information on the variety of systems we use to maximize the health and public health of female AI/AN patients of all ages.

Features:

1 MCH Conferences: Chronologic order. Also links to zillions of other CME calendars
2 ACOG/IHS Course: Best primer /update for AI/AN women. Reference text online
3 Primary Care Discussion Forum: Quarterly listserv discussions with an expert
4 Programs and Resources: What has worked for other Indian Health folks?
5 Databases and Resources: A lot of statistics have already compiled. Save some work
6 Meeting Lecture Notes: Power Point presentations, slides from popular meetings
7 Discussion Groups: Want to discuss topics, or just get periodic updates?
8 Other Helpful Links: We have already done the surfing for you
9 Forms: Take a look. Don't reinvent the wheel
10 Newsletters and Journals
11 Training: Online, and face to face training opportunities
12 Access to care
13 Advanced Practice Nurses/ PAs page

Women's Health

The Women's Health page holds information from a multitude of sources pertaining to the health of women in the post-reproductive time of their lives. You will find information on the psychosocial aspects of aging, menopause, osteoporosis, and much more.

Features

1 Cancer: Divided by category—breast, cervical, endometrial, ovarian, colon, etc..
2 Cardiovascular Disease: Disparities in care of AI/AN women and prevention
3 Diabetes: Emphasizes prevention and systems approaches
4 Mature women: Hormone replacement, osteoporosis, pelvic physical therapy
5 Mental Health: Depression and other issues
6 Substance Abuse: Tobacco education, other drugs

Violence Against Native Women

The Violence Against Native Women page lists many programs designed to protect our patients against domestic violence/sexual assault, as well as information on sexually transmitted diseases.

Features:

1 Clinical Tools: Assessment and prevention tools
2 Community Action: Checklists and library
3 Current Events: Training
4 Legislative Action: How to get involved
5 Other Helpful links: We have a lot of surfing for you
6 Patient Education: Emphasizes prevention
7 Policies and Procedures: What has worked well at other Indian Health sites
8 Provider Education: Tutorials and training
9 Public Health: Who should we screen, and more
10 Resources: Fact sheets and compendiums
11 Sexual Assault: Dispel the myths

MCH Portal: www.ihs.gov/MedicalPrograms/MCH/index.cfm
Links to the associated pages are available at this portal site.

Perinatology Picks

George Gilson, MFM, ANMC

Focus on preventable causes of stillbirth: 3 articles

Identification of risk factors for stillbirth helps clinician assess next pregnancy

CONCLUSION: Identification of risk factors for stillbirth assists the clinician in performing a risk assessment for each patient. Unexplained stillbirths and stillbirths related to growth restriction are the 2 categories of death that contribute the most to late fetal losses. Late pregnancy is associated with an increasing risk of stillbirth, and clinicians should have a low threshold to evaluate fetal growth. The value of antepartum testing is related to the underlying risk of stillbirth and, although the strategy of antepartum testing in patients with increased risk will decrease the risk of late fetal loss, it is of necessity associated with higher intervention rates

Fretts RC. Etiology and prevention of stillbirth. Am J Obstet Gynecol. 2005 Dec;193(6):1923-35.

Certain laboratory tests can be eliminated in the workup of fetal death

CONCLUSION: The causes of stillbirth are many and varied, with a large proportion having no obvious cause. As this study demonstrates, certain laboratory tests can be eliminated in the workup of fetal death. In the evaluation of stillbirth a complete systematic method that incorporates placental pathologic conditions, as well as autopsy findings, should prove to be beneficial.

Incerpi MH, et al Stillbirth evaluation: what tests are needed? Am J Obstet Gynecol. 1998 Jun;178(6):1121-5.

Comprehensive stillbirth assessment services should become routine

CONCLUSION: Substantial relevant information can be learned from stillbirth assessment at a modest economic cost. Programs that can provide comprehensive stillbirth assessment services should become part of routine pregnancy care.

Michalski ST, Porter J, Pauli RM. Costs and consequences of comprehensive stillbirth assessment. Am J Obstet Gynecol. 2002 May;186(5):1027-34.

OB/GYN CCC Editorial

This is an important topic because we need learn about any preventable causes of stillbirth to prevent any future tragedies for the family. Here are some other resources:

Q How should I manage a fetal demise?

A This I.H.S. Primary Provider article discusses the need for investigation of every loss of pregnancy (intrauterine fetal demise [IUFD], or spontaneous abortion), risk factors, possibly early warning signs, aspects of counseling and emotional support, and criteria for protocols.

www.ihs.gov/MedicalPrograms/MCH/M/MCHdownloads/FetalDem.pdf

Q When should antenatal testing start after a previous IUFD? at 34 weeks? Or prior to the gestational age of the previous IUFD?

A Probably neither, unless you know the exact etiology of the prior IUFD, but there is more.

www.ihs.gov/MedicalPrograms/MCH/M/faqdnlds/IUFtest102804.doc

STD Corner

Lori de Ravello, National IHS STD Program

Efficacy and safety of azithromycin for treatment of C. trachomatis in pregnancy

RESULTS: Of the 277 women in the study sample, 69% were initially prescribed azithromycin, 9% amoxicillin, and 19% erythromycin. Eight-one percent of subjects had a TOC 7 or more days after diagnosis and before delivery. Treatment efficacy, as defined by a negative TOC, was 97% (95% confidence interval [CI], 92.9-99.2) for azithromycin, 95% (95% CI, 76.2-99.9) for amoxicillin, and 64% (95% CI, 44.1-81.4) for erythromycin. The efficacy of azithromycin was significantly higher than erythromycin (P < 0.0001). There were no significant differences in efficacy by age, race/ethnicity, concurrent sexually transmitted disease diagnosis, partner treatment, or substance use. Furthermore, there was no difference in complications for women or infants exposed to azithromycin compared with those treated with other regimens. CONCLUSION: Clinical outcome data from this study population of women and infants support both efficacy and safety of azithromycin for treatment of C. trachomatis in pregnancy.

Rahangdale L, et al An Observational Cohort Study of Chlamydia trachomatis Treatment in Pregnancy. Sex Transm Dis. 2006 Feb;33(2):106-110.

OB/GYN CCC Editorial comment:

Rahangdale et al is significant because it is one of the first studies to report successful use of azithromycin in pregnancy. While many of use azithromycin genital chlamydial infection during pregnancy already, azithromycin has been considered an alternative therapy, e. g., not first line therapy. Hopefully with these findings and the upcoming STI summit in May 2006, we will see azithromycin's status upgraded.

Medical Mystery Tour

How not to give Acetaminophen
—or...*Listen-up any parents or grandparents out there*

Case

Parents brought their 5-year-old son to the emergency department (ED) with a 24-hour history of fever, cough, and frontal headache. Physical examination, vital signs, and laboratory evaluation were unremarkable. The patient was discharged with a diagnosis of viral syndrome after receiving one dose of acetaminophen in liquid form. Two days later, the patient returned to the ED with continuing fever and new rigors, vomiting, lethargy, and right upper quadrant abdominal pain. Laboratory evaluation indicated that acetaminophen levels and PT/INR were elevated.

Further discussion with the parents revealed that they misread the instructions about administering liquid acetaminophen. They gave multiple doses of 20 mL (48 mg/mL solution equaling 960 mg per dose) instead of the correct dose for their 20-kg child (6 mL = 288 mg). The patient was admitted to the hospital, given intravenous N-acetylcysteine, and his symptoms improved over the succeeding days. His acetaminophen levels declined, and he was safely discharged home without further events.

"liquid acetaminophen comes in varying concentrations, thus creating potential for confusion"

COMMENTARY: James E. Heubi, MD

Available as an over-the-counter medication in the United States since 1960, acetaminophen is considered safe and effective for the management of fever and pain in children. Few serious adverse effects have been reported. A recent study evaluating more than 28,000 children treated with acetaminophen failed to show any increased risk of acute gastrointestinal bleeding, acute renal failure, or anaphylaxis.

Despite this enviable safety record, acetaminophen-induced hepatotoxicity can be lethal when the medicine is taken in supratherapeutic doses. These include an intentional overdose with a single dose exceeding 140 mg/kg, unintentional overdose when a child is given multiple doses of acetaminophen that exceed manufacturer recommendations, or inadvertent overdose when a child receives acetaminophen in combination with cough/cold preparations. The frequency of accidental acetaminophen overdoses causing clinically significant hepatotoxicity as described in this case is unknown. However, during a 10-year period at five California hospitals, 73 children (younger than 19 years) presented with acetaminophen hepatotoxicity, with 62 of 63 suicidal patients (three required orthotopic liver transplant) and 9 of 10 patients with accidental overdoses surviving. Another study of acetaminophen hepatotoxicity in accidental overdose cases reported a wide range of implicated doses, but the most frequent causes involved administration of adult preparations to children (approximately half of cases), followed by inaccurate substitution of a higher-concentration preparation for a lower one. Fifty-five percent of the patients died, and five underwent liver transplants, with four surviving.

Pharmacology of Acetaminophen Overdose

As with single, large overdoses of acetaminophen, hepatotoxicity from multiple supratherapeutic doses also results when the normal metabolic pathways in the liver are overwhelmed by the volume of drug, which leads to a series of molecular events ultimately causing cellular death. The severity of liver injury is dependent upon the quantity of acetaminophen ingested, whether the P450 cytochrome system has been induced with drugs or alcohol, and potentially the nutritional state of the patient.

Unlike acute large ingestions of acetaminophen with suicidal intent, in which a nomogram helps to predict outcome and need for N-acetylcysteine treatment, the nomogram offers little value in predicting outcome with multiple supratherapeutic doses. However, identifying elevated acetaminophen concentrations in the blood relative to the last dose may reveal a risk for hepatotoxicity. Although N-acetylcysteine is effective in preventing serious liver injury with acute toxic ingestions, there is no proof of its benefit when multiple excessive doses are taken. Once a patient is identified with hepatotoxicity after chronic overdosage, only supportive therapy is helpful and, if liver failure develops, liver transplantation can be lifesaving.

Safety Strategies

A number of safety interventions could prevent future acetaminophen overdoses, and these efforts should target individual providers and parents, medication labeling practices, and broader health care systems. First, the key to prevention begins with parental education. Physicians' office personnel, pharmacists, and all health care providers play an important role in educating parents regarding the safe use of over-the-counter medications such as acetaminophen. Education should begin with instructions about acetaminophen safety, including dosing and forms of available preparations, as well as emphasizing to parents that "more is not better" with acetaminophen use. In addition, checking whether acetaminophen-containing cough/cold preparations are being inadvertently used with acetaminophen provides an important cautionary strategy. Finally, preparing illustrative handouts that depict when acetaminophen is a sole ingredient versus a combination (cough/cold) product to indicate the concentrations of acetaminophen in each would be beneficial.

From a medication labeling perspective, encouraging manufacturers to limit liquid preparations to only a single

➔

➔ concentration might prevent confusion regarding infant/child formulations. Currently, liquid acetaminophen comes in varying concentrations, thus creating potential for confusion, particularly for those parents with low health literacy. Perhaps this was the contributing factor in the case presented. In addition, highlighting (by bolding in the ingredients) the presence of acetaminophen in combination products might prevent unintended "double dosing." Although acetaminophen labeling provides guidelines on appropriate dosing, they are not weight based . But even weight-based labeling would not be a panacea, since it relies on accurate calculations that are more involved than current age-based dosing guidelines for children. In practice, the age-based guidelines should be sufficient to prevent the average-size child from receiving excessive dosing. Lastly, requiring pharmacies or drug manufacturers to prepare a "handout" (or display) at the point of sale with dosing instructions for parents might serve to emphasize safe administration practices.

To minimize acetaminophen drug toxicity, encourage weight-based dosing of 10-15 mg/kg/dose and do not exceed 5 doses in 24 hours. It is also important to be aware of agents that might amplify acetaminophen toxicity and adjust dosing accordingly using a pharmacist or a readily available drug reference resource for guidance. Remind parents that acetaminophen is a safe and effective therapy but administering it in greater-than-recommended doses will not be more effective and may be harmful, even life-threatening.

Take-Home Points

- Acetaminophen hepatotoxicity after multiple supratherapeutic doses is a rare and preventable condition.
- Weight-based administration of acetaminophen is crucial in preventing supratherapeutic dosing.
- In treating infants or small children, select a single dose strength of acetaminophen and use it consistently.
- Always screen for concurrent use of cough/cold preparations containing acetaminophen if you plan to recommend acetaminophen for a child.

James E. Heubi, MD
University of Cincinnati College of Medicine
(from AHRQ Web M + M)
www.webmm.ahrq.gov/

(Trial of Labor..., continued from page 1)

High Risk Patient:

- Repetitive non-reassuring FHR abnormalities not responsive to clinical intervention.
- Bleeding suggestive of abruption
- 2 hours without cervical change in the active phase despite adequate labor

* NB: 'Two prior uterine scars and no vaginal deliveries' is listed as a circumstance under which trial of labor should not be attempted by the American College of Obstetricians and Gynecologists ACOG Practice Bulletin No. 54, 'Vaginal birth after previous cesarean delivery'.

Here is one suggested management system

Low risk:

- Notify Pediatrics, Anesthesia, and operating room crew of admission
- OB/GYN on campus during active phase
- Perinatal Guidelines of Care, ACOG, observed

Medium risk

- Notify Pediatrics, Anesthesia, and operating room crew of admission
- Operating room on campus in active phase or other plan if crew is busy

High risk:

- OB/GYN, Anesthesia, and Pediatrics available
- No other acute care responsibilities
- Rapid decision to incision

Northern New England Perinatal Quality Improvement Network—www.nnepqin.org/nneob/servlet/HomePage

Other helpful background—See *American Family Physician* **in this issue (page 7)**

The American Academy of Family Practice provides an Evidence Based approach to the trial of labor after cesarean.

AAFP Recommendation 4 is the most controversial. TOLAC should not be restricted to facilities with surgical teams present throughout labor because there is no evidence that these additional resources result in improved outcomes. A management plan for uterine rupture and other potential emergencies requiring rapid cesarean section should be available and documented for each woman undergoing TOLAC. This recommendation differs from the current American College of Obstetrics and Gynecology (ACOG) guidelines and policy (grade C).

SAVE THE DATES

18th Annual IHS Research Conference

- April 24–26, 2006
- Albuquerque, NM
- Discovering Pathways to Better Health for AI/AN
- **www.ihs.gov/MedicalPrograms/ClinicalSupportCenter/index.cfm**

Native Peoples of North America HIV/AIDS Conference

- May 3–6, 2006
- Anchorage, Alaska
- Embracing Our Traditions, Values, and Teachings
- **www.embracingourtraditions.org**

I.H.S./A.C.O.G. Obstetric, Neonatal, and Gynecologic Care Course

- September 17–21, 2006
- Denver, CO
- Contact **YMalloy@acog.org** or call Yvonne Malloy at 202-863-2580
- **www.ihs.gov/MedicalPrograms/MCH/M/CN01.cfm#Sep06**
- NEONATAL RESUSCITATION PROGRAM available

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Some of the Articles Inside **Ob/Gyn & Pediatrics** **CCC Corner** **February 2006**

Abstract of the Month

- Trial of Labor After Cesarean

IHS Child Health Notes

- Infectious Disease Updates—Making sense of the 2006 Immunization Schedule
- Announcements from the AAP Indian Health Special Interest Group
- Locums Tenens and Job Opportunities

From Your Colleagues

- Nancy Brannin, Santa Fe—Oral misoprostol for cervical priming in non-pregnant women
- Judy Thierry, HQE—Please welcome Roy Hoffman

Hot Topics

- Obstetrics—Term breech trial: The original term breech trial recommendations should be re-evaluated
- Gynecology—Superiority of Liquid-Based Cytology for Cervical Screening Questioned
- Child Health—Broad-spectrum antibiotics during labor linked to late-onset serious infections in infants
- Chronic disease and Illness—Dietary intervention alone of little benefit in preventing disease

Features

- American Family Physician—Vaginal Birth after Cesarean (continued from Abstract of the Month)
- Primary Care Discussion Forum—Cardiology Topics for Primary Care Providers—February 15, 2006
- Chronic Illness—Health of American Indians and Alaska Natives (AI/ANs) is worse than that of the general population
- Midwives Corner—When Should We Clamp the Umbilical Cord? Preterm vs Term Infants
- Featured Website—Maternal Child Health Website Gets a Facelift
- Perinatology Picks—Focus on preventable causes of stillbirth: 3 articles
- Medical Mystery Tour—How not to give Acetaminophen—or...Listen-up any parents or grandparents out there