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

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Link between GDM and Type 2 DM can be broken

Type 2 diabetes frequently results from progressive failure of pancreatic beta-cell function in the presence of chronic insulin resistance. We tested whether chronic amelioration of insulin resistance would preserve pancreatic beta-cell function and delay or prevent the onset of type 2 diabetes in high-risk Hispanic women.

METHODS: Women with previous gestational diabetes were randomized to placebo (n = 133) or the insulin-sensitizing drug troglitazone (400 mg/day; n = 133) administered in double-blind fashion. Fasting plasma glucose was measured every 3 months, and oral glucose tolerance tests (OGTTs) were performed annually to detect diabetes. Intravenous glucose tolerance tests (IVGTTs) were performed at baseline and 3 months later to identify early metabolic changes associated with any protection from diabetes. Women who did not develop diabetes during the trial returned for OGTTs and IVGTTs 8 months after study medications were stopped.

RESULTS: During a median follow-up of 30 months on blinded medication, average annual diabetes incidence rates in the 236 women who returned for at least one follow-up visit were 12.1 and 5.4% in women assigned to placebo and troglitazone, respectively ($P < 0.01$).

Protection from diabetes in the troglitazone group

1) was closely related to the degree of reduction in endogenous insulin requirements 3 months after randomization,
2) persisted 8 months after study medications were stopped, and
3) was associated with preservation of beta-cell compensation for insulin resistance.

CONCLUSION: Treatment with troglitazone delayed or prevented the onset of type 2 diabetes in high-risk Hispanic women. The protective effect was associated with the preservation of pancreatic beta-cell function and appeared to be mediated by a reduction in the secretory demands placed on beta-cells by chronic insulin resistance.

Buchanan TA, et al Preservation of pancreatic beta-cell function and prevention of type 2 diabetes by pharmacological treatment of insulin resistance in high-risk hispanic women. Diabetes. 2002 Sep;51(9):2796-803

OB/GYN CCC Editorial

Buchanan et al is the first RCT to show prevention or delay in the onset of type 2 diabetes in former gestational diabetes mellitus (GDM) patients.

Kim et al showed that in gestational diabetes mellitus (GDM) the cumulative incidence of diabetes ranged to over 70% in studies that examined women 6 weeks postpartum to 28 years postpartum. Cumulative incidence of type 2 diabetes increased markedly in the first 5 years after delivery and appeared to plateau after 10 years. An elevated fasting glucose level during pregnancy was the risk factor most commonly associated with future risk of type 2 diabetes. Targeting women with elevated fasting glucose levels during pregnancy may prove to have the greatest effect for the effort required. The above RCT by Buchanan et al that the onset of type 2 DM could be delayed or prevented in women with a history of GDM.

There is evidence that a number of pharma-

(continued on page 15)

THIS MONTH

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.

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

IHS Child Health Notes

December 2005

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

"Get a bicycle. You will not regret it if you live."
—Mark Twain

Articles of Interest

Cost of Influenza Hospitalization at a Tertiary Care Children's Hospital and its Impact on the Cost-Benefit Analysis of the Recommendation for Universal Influenza Immunization in Children Age 6 to 23 Months. J Pediatr. 2005 Dec;147(6):807-11.

Influenza-associated deaths among children in the United States, 2003-2004. N Engl J Med. 2005 Dec 15;353(24):2559-67.

Summary and Editorial

By the time you read this influenza will have likely already arrived in your community.

The first article looks at the cost benefit ratio for influenza vaccination of all children ages 6 months to 23 months and reports that vaccinations are cost effective. No surprises there.

The second article reviews 153 influenza-associated deaths in children from the 2003-2004 winter. Those in practice then will recall that it was a particularly busy flu season made more difficult by concern that there were an increased number of childhood deaths related to influenza.

This study confirms that the 2003-2004 flu season was more severe than usual. The increased mortality is attributed to the finding that the predominant virus in circulation that year was influenza A (H_3N_2), a subtype associated with increased virulence.

The study confirmed that the highest death rate occurred in those less than 6 months. The death rate was also much higher in those less than 24 months compared to those older. Patients with a designated high-risk condition were at 5 times the risk of death compared to children without risk factors. All of this confirms existing guidelines for universal vaccination of children 6 months to 23 months and those with designated high-risk disorders.

Of note was that children with chronic neurological or neuromuscular disorders had an equally elevated mortality rate. This heterogeneous group of disorders includes "developmental delay, cerebral palsy, seizure disorders and congenital neurological conditions". These illnesses are not currently designated to receive the annual flu vaccination. However, the Advisory Committee on Immunization Practices recently recommended the annual flu vaccine for all persons with "conditions that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration." This would cover most patients with the above diseases.

Of children for whom vaccine status could be determined only 16% had been immunized against influenza. For high-risk groups such as ages 6 months to 23 months and those with cardio-respiratory disease the flu vaccination rates were only marginally better at 26%. While vaccination is not fully protective it continues to be underutilized in children. Are we doing better in the Indian Health Service?

Lastly, for those who want to keep track of influenza activity in their communities this winter the CDC has a website that is updated weekly. Go to:

http://www.cdc.gov/flu/weekly/fluactivity.htm

Infectious Disease Updates.

Rosalyn Singleton MD MPH

Hepatitis A Vaccine: Nice Success Story—New Recommendations.

At the October 26 ACIP meeting, ACIP members voted that all children in the US be vaccinated against hepatitis A vaccine. This Fall the FDA changed the recommended earliest age for hepatitis A vaccine from 2 years to 1 year. The next version of the RPMS immunization package will forecast hep A vaccine starting 15 months (the 12 month visit is too crowded with other vaccines).

Providers in Indian country have led the way in hepatitis A prevention. IHS and tribal programs have been providing routine hepatitis A vaccine to American Indian and Alaska Native (AI/AN) children since 1996, when hepatitis A was first licensed. Routine childhood vaccination has basically eliminated hepatitis A infection as a public health problem among AI/AN people. This nice graph from Stephanie Bialek's article shows the dramatic decline in AI/AN people, from 10-fold higher, to a rate now similar to the rest of the US.

Reference: Bialek SR. AJPH 2004;94:996-1001

Recent literature on American Indian/ Alaskan Native Health

Doug Esposito, MD

Comprehensive primary care for children with special health care needs in rural areas. Pediatrics. 2005;116(3):649-56.

Summary

The authors report results from a medical home demonstration project conducted in rural Missouri. Although not specific to AI/AN populations, this study has direct relevance to rural ➔

➔IHS practice environments.

The 6-month intervention consisted of a health care team comprised of a primary care physician, their office staff, a nurse practitioner (who worked for the project), a paid parent consultant, the child, and the family. Each family received a comprehensive evaluation of the child and family's medical and non-medical needs by the NP, culminating in a written care plan and letter outlining services available in the community to meet these needs. In addition, the NP provided consultation to the rural practices to help improve their capacity to function as a medical home for children with special health care needs. Family support services were also provided by the parent consultant.

This study demonstrated a positive effect. Families reported increased satisfaction with care coordination and increased access to mental health services for their children. There was also a positive impact on several aspects of family functioning, including a decrease in family needs, decreased absences from work, fewer absences from school, and less family strain. Family satisfaction with their primary care provider decreased slightly, but an explanation for this unexpected finding was offered.

Limitations of this study included a lack of a control group. Additionally, although the counties included in the study were rural, they were adjacent to metropolitan areas, thus potentially limiting the study's generalizability to more rural environments. Finally, the study population was over represented by children with more severe conditions, single parent families, and children with insurance coverage, potentially limiting generalizability further.

Overall, though, the study demonstrated a beneficial effect of a medical home model of care for children with special health care needs residing in a rural setting.

Editorial Comment

There is much buzz in the literature lately regarding the medical home concept and care coordination (a.k.a. case management). Conspicuously absent, though, has been data demonstrating a benefit in rural underserved populations. This paper goes some distance in defining the benefit we would all expect from wider adoption and application of these concepts.

It is no secret to those of us who work on rural Reservations that the services routinely accessible to children and youth with special health care needs in urban and suburban settings are significantly lacking and difficult or even impossible to access from our more remote environs. You can't get what doesn't exist, or what is impossibly distant! For example, in my own community of Fort Defiance, Arizona, pediatric specialized speech, occupational, and physical therapy services for mild to moderately effected children are only accessible through either the public schools or the Early Intervention Program These services are routinely stretched thin, and do not provide sufficient hours of one-on-one contact to achieve optimal (or sufficient) benefit. The closest place to receive any necessary or medically indicated supplemental services for us is 40 miles away. The drive is even more untenable for those living even deeper inside the Reservation, or for those so cash-strapped as to not have transportation or gas money. Even if such services were covered by Medicaid, Medicare, or private insurance, accessing them is truly a daunting prospect.

We are fortunate in that IHS or tribally administered health systems are more-or-less organized along the lines of the medical home concept. This was the case even before the concept became trendy! Care coordination is essentially what we medical providers do, though we certainly could do it better and more efficiently. More robust and better organized systems of care coordination are definitely indicated.

The time is now to push for true care coordination on a wider scale in IHS and rural America. Medical providers working with AI/AN populations are typically responsible for knowing and understanding all the services available and how to access them. But, are we really good at that? We are also responsible for making the phone calls, writing the letters, tracking down patients, etc., etc. But, are we the best ones to be doing that either?

I believe that other professions (nurse practitioners, physician assistants, registered nurses, social workers, etc.) are better positioned to serve as care coordinators. I would advocate for a re-evaluation of our system of care, and movement toward one which relies more heavily on professional non-physician care coordinators. Numerous studies have demonstrated multiple benefits of such a model. The difficulty now will be working with the reimbursement world, state and federal governments and agencies, and our own administrators to help figure out how to make this all work on a more global scale!

South Central Foundation (SCF) in Anchorage, Alaska, has a fairly robust system of care coordination. At SCF, each primary care pediatrician is paired with a nurse case manager. This system works wonderfully and approaches seamless and efficient family centered care for medically complex children and children with special health care needs. And, families love it! Although this system is unlikely to be economically or administratively feasible in most IHS or rural settings at the present time, some form of professional care coordination is highly desirable. We must move in that direction.

Additional Reading

Care coordination in the medical home: integrating health and related systems of care for children with special health care needs. Pediatrics. 2005 Nov;116(5):1238-44.

Care coordination services in pediatric practices. Pediatrics. 2004;113:1517-21.

History of the medical home concept. Pediatrics. 2004;113:1473-8.

(IHS Child Health Notes, continued on page 15)

From Your Colleagues

Carolyn Aoyama, HQE

Gestational Diabetes: ACOG/IHS Obstetrics, Neonatal and Gynecologic Care

I want to make you aware of the Post Graduate Course on Obstetric, Neonatal and Gynecologic Care which will be offered this year, September 17th through the 21st in Denver, Colorado. This course will include content on Gestational Diabetes including how GDM affects the mother's health during her pregnancy, the health of the fetus and the neonate. Please consider attending this interesting course:
www.ihs.gov/MedicalPrograms/MCH/M/CN01.cfm#Sep06

OB/GYN CCC Editorial comment:

The ACOG / IHS Postgraduate Course represents a unique opportunity for Indian Health staff who care for AI/AN women and children. There are not any major subject areas in which a major professional organization, like ACOG, has devoted so many resources to improving the care of Native people.

The Postgraduate Course is a thorough 4.5 day primer on all the relevant topics in the care for AI/AN women and neonates. It is a great resource for a new staff member new to Indian Health, or a seasoned staff member who wants a complete update. The Course has been held since the 1980s, so most of the kinks have been worked out, as witnessed by its superlative ratings from past attendees.

Each facility should consider sending at least one provider and one nurse to this year's Course. Sign up soon. PS: Limited funding may be available. Contact Carolyn Aoyama
Carolyn.Aoyama@ihs.gov

Tom and Edith Welty, Flagstaff

Integrating prevention of mother-to-child HIV transmission into routine antenatal care

Here is an article published in JAIDS describing work done by our colleagues in Cameroon. We will be going to Cameroon again in Feb 2006 for a month to help support the program there.

We trained 690 health workers in PMTCT and counseled 68,635 women, 91.9% of whom accepted HIV testing. Of 63,094 women tested, 8.7% were HIV-1-positive. Independent risk factors for HIV-1 infection included young age at first sexual intercourse, multiple sex partners, and positive syphilis serology ($P < 0.001$ for each). We counseled 98.7% of positive and negative mothers on a posttest basis. Of 5550 HIV-positive mothers, we counseled 5433 (97.9%) on single-dose NVP prophylaxis. Consistent training and programmatic support contributed to rapid up scaling and high uptake and counseling rates.

Welty TK, Bulterys M, Welty ER, et al Integrating prevention of mother-to-child HIV transmission into routine antenatal care: the key to program expansion in Cameroon.

OB/GYN CCC Editorial

According to the report above the Prevention of Mother to Child HIV Transmission (PMTCT) Program of the Cameroon Baptist Convention Health Board (CBCHB) owes much of its success to the nurses, midwives and trained birth attendants who have added HIV/AIDS counseling and testing to their regular menu of antenatal services offered to pregnant women. Folding HIV prevention services into existing antenatal care was the key to rapid expansion of PMTCT programs in Cameroon.

With strong endorsement of the Ministry of Health, CBCHB recently partnered with Action for West African Region (AWARE), a program supported by the United States Agency for International Development (USAID) to launch a PMTCT and reproductive health training center for the West African region. Based on the EGPAF-funded CBCHB model, the center in Cameroon trains health care workers from 18 West and Central African countries to conduct HIV counseling and testing, deliver PMTCT drug regimens, and conduct follow-up with mothers and their babies. To date, the CBCHB staff has trained 31 health care workers from 8 countries and plans additional training programs.

Edie and Tom retired from IHS after 26 years (23 with IHS and 3 with CDC) in 1997. They began to work as volunteers with the Cameroon Baptist Convention Health Board in 1998 and go there about 6 weeks a year to support their program. They wrote a grant to Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in 2000, which was one of eight programs funded and EGPAF has renewed it annually since then. The AIDS Program is quite comprehensive (summary available upon request).

"It is very gratifying for us to see how much they have accomplished with minimal resources. Everyone has been affected by HIV and is motivated to do as much as possible to prevent and treat it."

Tom and Edie Welty

Hot Topics

Obstetrics

Bed Rest for pregnancy related hypertension: Bed rest should not be recommended

Authors' conclusions: Few randomized trials have evaluated rest for women with hypertension during pregnancy, and important information on side-effects and cost implication is missing from available trials. Although one small trial suggests that some bed rest may be associated with reduced risk of severe hypertension and preterm birth, these findings need to be confirmed in larger trials. At present, there is insufficient evidence to provide clear guidance for clinical practice. Therefore, bed rest should not be recommended routinely for hypertension in pregnancy, especially since more women appear to prefer unrestricted activity, if the choice were given.

Meher S, Abalos E, Carroli G. Bed rest with or without hospitalisation for hypertension during pregnancy. The Cochrane Database of Systematic Reviews 2005, Issue 4. Art. No.: CD003514.pub2. DOI: 10.1002/14651858. CD003514.pub2

Simulation training improves resident performance of a simulated vaginal breech delivery

CONCLUSION: Simulation training improved resident performance in the management of a simulated vaginal breech delivery. Performance of a term breech vaginal delivery is well suited for simulation training, because it is uncommon and inevitable, and improper technique may result in significant injury. LEVEL OF EVIDENCE: II-2.

Deering S, et al Simulation training and resident performance of singleton vaginal breech delivery. Obstet Gynecol. 2006 Jan;107(1):86-9.

Follow-up on Paroxetine change from Class C to Class D*

The following seven articles were published prior to the change from Class C to Class D, but they offer helpful ideas on non-pharmacologic therapies and on how to carefully withdrawal antidepressant medications in pregnancy and lactation.

Depression during pregnancy

CONCLUSION: Early detection of depression during pregnancy is critical because depression can adversely affect birth outcomes and neonatal health and, if left untreated, can persist after the birth. Untreated postpartum depression can impair mother-infant attachments and have cognitive, emotional, and behavioral consequences for children.

Ryan D, Milis L, Misri N. Depression during pregnancy. Can Fam Physician. 2005 Aug;51:1087-93.

Taking antidepressants during late pregnancy. How should we advise women?

QUESTION: In light of recent negative media attention to antidepressant use during late pregnancy, several of my patients have either discontinued or are considering discontinuing their antidepressant medications. How can I best counsel these patients on taking antidepressants during late pregnancy?

ANSWER: Antidepressant use during the third trimester has been associated occasionally with a transient neonatal withdrawal-like syndrome characterized by jitteriness, self-limiting respiratory difficulties, and problems with feeding. When counseling patients, the risk of these adverse effects must be weighed against the risks associated with untreated depression during late pregnancy. Abrupt discontinuation of psychotropic medications has been associated with both physical (eg, withdrawal) and psychological (eg, suicidal thoughts) symptoms.

Kalra S, et al Taking antidepressants during late pregnancy. How should we advise women? Can Fam Physician. 2005 Aug;51:1077-8.

Editorial: Stewart D. Depression during pregnancy. Can Fam Physician. 2005 Aug;51:1061-7.

Psychotropic drugs in pregnancy and lactation.

The management of psychotropic medications during pregnancy and lactation involves a difficult and complex decision for both patient and provider, particularly due to the many unknown effects medication may have on the infant. Available studies concerning use of ➔

Primary Care Discussion Forum

Cardiology Topics for Primary Care Providers –February 15, 2006

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

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.

Antidepressants Are No Match for Poverty

In a study that compared the outcome of a depression therapy with a combination of pharmacologic and physical treatment, poverty was a marker for poor outcome, according to a team of Harvard researchers.

Depressed patients who were classified as middle income were almost twice as likely to respond to treatment as were those who lived in poor neighborhoods

CONCLUSION: Residence in a low-income census tract is associated with a less favorable course of depression among older adults receiving a combination of pharmacologic and psychosocial treatment.

Cohen A, et al Social inequalities in response to antidepressant treatment in older adults. Arch Gen Psychiatry. 2006 Jan;63(1):50-6.

➔psychotropic medications in pregnant and lactating women are limited and there are no universal guidelines. This article reviews the literature on the use of psychotropic drugs, including antidepressants, mood stabilizers, antipsychotics, and benzodiazepines, in pregnant and breast-feeding women and presents relevant data on teratogenic effects, neonatal toxicity, perinatal syndromes, and neurobehavioral sequelae.

Jain AE, Lacy T. Psychotropic drugs in pregnancy and lactation. J Psychiatr Pract. 2005 May;11(3):177-91

Prevalence of suicidality during pregnancy and the postpartum.

This review examined the available prevalence estimates of suicidality (suicide deaths, attempts, and ideation including thoughts of self harm) in pregnancy and the postpartum. Studies that used defined community or clinic samples were identified through multiple electronic databases and contacts with primary authors. Definitions of and measurement of suicide deaths, intentional self-harming behavior, suicide attempts, and thoughts of death and self-harm were varied and are described with each study. While suicide deaths and attempts are lower during pregnancy and the postpartum than in the general population of women, when deaths do occur, suicides account for up to 20% of postpartum deaths. Self-harm ideation is more common than attempts or deaths, with thoughts of self-harm during pregnancy and the postpartum ranging from 5 to 14%. The risk for suicidality is significantly elevated among depressed women during the perinatal period, and suicide has been found to be the second or leading cause of death in this depressed population.

Lindahl V, et al Prevalence of suicidality during pregnancy and the postpartum. Arch Women Ment Health. 2005 Jun;8(2):77-87.

Newer antidepressants in pregnancy and rates of major malformations: a meta-analysis of prospective comparative studies

CONCLUSIONS: As a group, the newer antidepressants are not associated with an increased risk of major malformations above the baseline of 1-3% in the population.

Einarson TR, Einarson A. Newer antidepressants in pregnancy and rates of major malformations: a meta-analysis of prospective comparative studies. Pharmacoepidemiol Drug Saf. 2005 Dec;14(12):823-7

Williams M, Wooltorton E.Paroxetine (Paxil) and congenital malformations. CMAJ. 2005 Nov 22;173(11):1320-1.

** December 2005 CCC Corner Paroxetine's pregnancy category changed from C to D, www.ihs.gov/MedicalPrograms/MCH/M/obgyn1205_HT.cfm#ob*

OB/GYN CCC Editorial

The CCC Corner would like to thank Chuck North, ABQ, for the above, as he contributed the majority of those resources.

While all due caution for the above issues should be exercised, we suggest all to please consider the big picture. See attached abstract below to give part of that larger perspective. Please note the use of SSRIs during pregnancy is not independently associated with increased risk of adverse perinatal outcome, other than need for treatment in neonatal special or intensive care unit. Also see below an article reporting that cognitive therapy works quite well in some patients without medication.

SSRIs not associated with risk of adverse perinatal outcome other than need NICU stay

RESULTS: Major malformations were not more common in infants or fetuses of women with first trimester SSRI purchases (n = 1,398) when compared with controls with no drug purchases (P = .4). Of infants born to mothers with SSRI purchases in the 3rd trimester, 15.7% were treated in special or intensive care unit compared with 11.2% of infants exposed only during the 1st trimester (P = .009, adjusted odds ratio 1.6, 95% confidence interval 1.1-2.2). We found no increased risk of preterm birth (< 37 weeks), birth 32 weeks of gestation or less, small for gestational age, or low birth weight in women with purchases in each trimester or during the 2nd and 3rd trimesters when compared with women with only 1st trimester purchases

CONCLUSION: Use of SSRIs during pregnancy is not independently associated with increased risk of adverse perinatal outcome other than need for treatment in neonatal special or intensive care unit. ➔

➔ *Malm H, Klaukka T, Neuvonen PJ Risks associated with selective serotonin reuptake inhibitors in pregnancy. Obstet Gynecol. 2005 Dec;106(6):1289-96. LEVEL OF EVIDENCE: II-2*

Cognitive Therapy for Depression

Cognitive therapy is a treatment process that enables patients to correct false self-beliefs that can lead to negative moods and behaviors. The fundamental assumption is that a thought precedes a mood; therefore, learning to substitute healthy thoughts for negative thoughts will improve a person's mood, self-concept, behavior, and physical state. Studies have shown that cognitive therapy is an effective treatment for depression and is comparable in effectiveness to antidepressants and interpersonal or psychodynamic therapy. The combination of cognitive therapy and antidepressants has been shown to effectively manage severe or chronic depression. Cognitive therapy also has proved beneficial in treating patients who have only a partial response to adequate antidepressant therapy. Good evidence has shown that cognitive therapy reduces relapse rates in patients with depression, and some evidence has shown that cognitive therapy is effective for adolescents with depression.

Am Fam Physician 2006;73:83-6, 93

The Fidgety Fetus Hypothesis

The following data was actually presented to the IHS staff in person at the last national Women's health and MCH meeting in August 2004 by Lois Jovanovic.

CONCLUSIONS: The fetus appears to play a role in determining its own destiny. Increased fetal activity may minimize the impact of hyperglycemia on subsequent birth weight. The inactive fetus appears to be at a higher risk for glucose-mediated macrosomia.

Zisser H, Jovanovic L, et al The Fidgety Fetus Hypothesis: Fetal activity is an additional variable in determining birth weight of offspring of women with diabetes. Diabetes Care. 2006 Jan;29(1):63-7.

Gynecology

Prior Function and Relationship, More Than Hormones, Affect Sexual Function in Midlife

CONCLUSION(S): Prior function and relationship factors are more important than hormonal determinants of sexual function of women in midlife.

Dennerstein L, Lehert P, Burger H. The relative effects of hormones and relationship factors on sexual function of women through the natural menopausal transition. Fertil Steril. 2005 Jul;84(1):174-80.

Child Health

Adolescents: Low-dose oral contraceptive relieved dysmenorrhea-associated pain

RESULTS: The mean Moos Menstrual Distress Questionnaire pain score was lower (less pain) in the OC group than the placebo group (3.1, standard deviation 3.2 compared with 5.8, standard deviation 4.5, P = .004, 95% confidence interval for the difference between means 0.88-4.53). By cycle 3, OC users rated their worst pain as less (mean pain rating 3.7 compared with 5.4, P = .02) and used fewer pain medications than placebo users (mean pain pills used 1.3 compared with 3.7, P = .05). By cycle 3, OC users reported fewer days of any pain, fewer days of severe pain, and fewer hours of pain on the worst pain day than placebo users; however, these differences did not reach statistical significance.

CONCLUSIONS: Among adolescents, a low-dose oral contraceptive relieved dysmenorrhea-associated pain more effectively than placebo.

LEVEL OF EVIDENCE: I Davis AR, et al Oral contraceptives for dysmenorrhea in adolescent girls: a randomized trial. Obstet Gynecol. 2005 Jul;106(1):97-104.

Chronic Illness

Aromatase inhibitors—a triumph of translational oncology—Breast Cancer

CONCLUSIONS: In postmenopausal women with endocrine-responsive breast cancer, adjuvant treatment with letrozole, as compared with tamoxifen, reduced the risk of recurrent disease, especially at distant sites

Thurlimann B, et al A comparison of letrozole and tamoxifen in postmenopausal women with early breast cancer. N Engl J Med. 2005 Dec 29;353(26):2747-57.

Editorial: Swain SM. Aromatase inhibitors--a triumph of translational oncology. N Engl J Med. 2005 Dec 29;353(26):2807-9.

Gynecology

HPV-16 vaccine provides high-level protection against CIN for at least 3.5 years

CONCLUSION: The vaccine HPV16 L1 VLP provides high-level protection against persistent HPV16 infection and HPV16-related CIN2-3 for at least 3.5 years after immunization. Administration of L1 VLP vaccines targeting HPV16 is likely to reduce risk for cervical cancer. LEVEL OF EVIDENCE: I

Mao C, et al Efficacy of Human Papillomavirus-16 Vaccine to Prevent Cervical Intraepithelial Neoplasia: A Randomized Controlled Trial. Obstet Gynecol. 2006 Jan;107(1):18-27.

Features

ACOG

Vaginal Birth Not Associated With Incontinence Later in Life

Contrary to the belief held by some, vaginal birth does not appear to be associated with incontinence later in life, a new study has found. The study, published in the December issue of Obstetrics & Gynecology, found that incontinence was more strongly related with family history.

Research Finds 40% of Pregnancy-Related Deaths Potentially Preventable

The overall maternal mortality rate in the US is not as low as it could be, according to a review of pregnancy-related deaths published in the December issue of Obstetrics & Gynecology. The review found that 40% of all pregnancy-related deaths in North Carolina from 1995-1999 were potentially preventable. Worldwide, complications of pregnancy are a major source of mortality among women. Although the US saw a 99% reduction in maternal death during the 20th century, 29 developed nations still have lower maternal mortality rates

Breastfeeding

Duration of Lactation and Incidence of Type 2 Diabetes

Special Editorial:

Suzan Murphy, new CCCC columnist

The following are comments on the December CCC Corner Breastfeeding posting:

"New studies shows a 15% reduction for the risk of diabetes for every year of lactation."

There are growing lists of research about the positive benefits of lactation for both the mom and baby. For our families where type 2 diabetes is a common, chronic threat and reality, a new tool—like breastfeeding—is a welcome addition to the diabetes prevention/care "tool kit." Studies in AI/AN and Native Canadian communities have linked breastfeeding with less risk of type 2 diabetes (Pettitt et al, 1997; Young et al, 2002) for offspring. Now studies support an even more profound maternal benefit for reducing diabetes risk (Stuebe AM et al, 2005)*. Breastfeeding could be the "immunization" that means less diabetes for future generations.

"…15% reduction in the risk of diabetes for every year of lactation."

The CDC report, Maternal Morbidity in American Indian and Alaska Native Women, 2002-2004, by Bacak SJ et al, states the prevalence of gestational diabetes is 7.8%—an alarming number that hints at the spiraling increases ahead for our communities. The presence of diabetes during pregnancy dramatically increases the risk of diabetes for the offspring and the mother. Breastfeeding could reduce risk for both. Providing families/communities/tribal agencies with information about these benefits and ways to support the practice of breastfeeding will allow more families to breastfeed.

For ideas about ways to support breastfeeding, please watch for the new IHS MCH Breastfeeding page. If a video/DVD would help, call 1-877-868-9473 for a 12 minute professionally done "Close to the Heart, Breastfeeding Our Children, Honoring Our Values. It is free and can be duplicated. Posters are also available at this number.

For free written materials, consider ordering "The Easy Guide To Breastfeeding for American Indians and Alaska Native Families" (url below) Scroll down to pregnancy, it is the last item in the category. 100 can be ordered on line. If you need more, use the comment section to explain the need. Thanks to IHS Head Start, there is a generous supply.

*Although there will be likely be more research about the mechanism for how this works, there are several possibilities, including enhanced maternal insulin sensitivity (Kjos SL et al, 1993; Tigas et al, 2002). Stay tuned.

Resources

The Easy Guide To Breastfeeding for American Indians and Alaska Native Families
www.ihs.gov/MedicalPrograms/diabetes/resources/rde/index.cfm?module=catalog

Bacak SJ, Thierry J, Tucker M, Paisano E Maternal Morbidity in American Indian and Alaska Native Women, 2002-2004
www.ihs.gov/MedicalPrograms/MCH/M/documents/MatMorb9205.doc

Kjos SL, et al The effect of lactation on glucose and lipid metabolism in women with recent gestational diabetes. Obstet Gynecol. 1993 Sep;82(3):451-5.

Pettitt DJ, et al Breastfeeding and incidence of non-insulin-dependent diabetes mellitus in Pima Indians. Lancet. 1997 Jul 19;350(9072):166-8.

Stuebe AM et al. Duration of Lactation and Incidence of Type 2 Diabetes JAMA. 2005;294:2601-2610

Tigas S, et al Metabolic adaptation to feeding and fasting during lactation in humans. J Clin Endocrinol Metab. 2002 Jan;87(1):302-7.

Young TK et al Type 2 diabetes mellitus in children: prenatal and early infancy risk factors among Native Canadians. Arch Pediatr Adolesc Med. 2002 Jul;156(7):651-5.

Perinatology Picks

George Gilson, MFM, ANMC

Should Pregnant Women Be Tested for Herpes Susceptibility?

Along with genital warts and Chlamydia infections, herpes virus (HSV) infection is one of the most prevalent sexually transmitted infections. Both HSV-1 (oral) and HSV-2 (genital) herpes can cause neonatal disease. The distinctions between primary and recurrent infections are often blurred, and asymptomatic HSV shedding remains the most common scenario. While neonatal transmission is low (about 1%) with secondary infection, because HSV is so common, the total number of HSV infections in infants born to women with recurrent disease remains significant. Likewise, up to 80% of infected neonates are currently born to asymptomatic women. Men and women both commonly identify "jock itch" or "yeast infection", not HSV, as the cause of the symptoms they may have.

While history is an unreliable way to identify those at risk, laboratory evaluation is also problematic. While viral culture remains the "gold standard", its sensitivity depends on the stage of the episode (vesicle, ulcer, crusted) and whether the lesion is primary or recurrent, and the results are not available for up to 7-10 days. PCR may be helpful to confirm the diagnosis, but at present it is expensive and not clinically used. Serologic testing with first generation assays remains neither sensitive nor specific for differentiating HSV-1 or HSV-2 because of cross reactivity. Likewise, IgM and IgG determinations are notoriously unreliable for differentiating new from recurrent infection with this virus. Recently however, newer type-specific glycoprotein-G based enzyme-linked immunosorbent assays (EIA) and immunoblot tests have been approved by the FDA. While these tests have much improved sensitivity and specificity, it remains controversial whether or not screening with these second generation tests is cost-effective, and is not currently recommended by ACOG.

The study from the University of Washington reported below adds another piece of evidence to this debate. It again demonstrated that clinical risk factor profiles could not be relied upon to replace or direct serologic testing to identify women who would become infected. The main risk factors here were a new (<1 year) partner, and a partner with oral HSV. The long-ranging implications of the study are that women and their partners who could be identified by serologic testing as at risk of acquiring HSV-2 could be counseled to avoid oral sex, use condoms, or be abstinent in late pregnancy. They might also be candidates for viral suppressive therapy.

Several studies have now shown that, in women with a history of HSV, acyclovir or valacyclovir prophylaxis in the late third trimester was effective in reducing clinical HSV recurrences, cesarean deliveries for active HSV, as well as asymptomatic HSV shedding. Numerous studies have documented the safety of acyclovir and its congeners for use in pregnancy. While this also appears to be a cost-effective intervention, it has only been partially addressed to by our parent organizations, although it seems to be widely implemented clinically. Whether or not this strategy could be applied more effectively if more women were identified serologically, remains to be seen. As with other evolving areas of clinical interest in obstetrics, stay tuned for on-going developments!

HSV acquisition rates are high in pregnancy

CONCLUSION: HSV acquisition rates in pregnancy are high in discordant couples, especially for HSV-2. Interventions that address risk factors for HSV acquisition should be studied in pregnancy. Clinical profiles cannot replace serologic screening to identify susceptible women with serologically discordant partners.

Gardella C, et al Risk factors for herpes simplex virus transmission to pregnant women: a couples study. Am J Obstet Gynecol. 2005 Dec;193(6):1891-9.

OB/GYN CCC Editorial

Women with one or more genital HSV recurrences during pregnancy appear to benefit from suppression (acyclovir 400 mg three times daily) given at 36 weeks of gestation through delivery. The following table is from the American College of Obstetricians and Gynecologists Practice Bulletin. Furthermore, although study data are lacking, we also recommend suppressive therapy starting at 36 weeks for all women with a prior history of recurrent genital herpes. Weekly genital cultures or PCR testing during late gestation are not recommended. They are expensive and not predictive of a poor outcome

Antiviral Treatment for Herpes Simplex Virus

Indication	Valacyclovir	Acyclovir	Famciclovir
First clinical episode	1,000 mg twice a day for 7–14 days	200 mg five times a day or 400 mg three times a day for 7–14 days	250 mg three times a day for 7–14 days
Recurrent episodes	500 mg twice a day for 5 days	200 mg five times a day or 400 mg three times a day for 5 days	125 mg twice a day for 5 days
Daily suppressive therapy	500 mg once a day (<= recurrences per year) or 1,000 mg once a day or 250 mg twice a day (>9 recurrences per year)	400 mg twice a day	250 mg twice a day

Baker DA. Antiviral therapy for genital herpes in nonpregnant and pregnant women. Int J Fertil 1998;43:243¬248

ACOG Practice Bulletin. Management of Herpes in Pregnancy. Number 8 October 1999. Clinical management guidelines for obstetrician-gynecologists. Non-ACOG members (Int J Gynaecol Obstet. 2000 Feb;68(2):165-73)

UpToDate: Genital herpes simplex virus infection and pregnancy, **www.uptodateonline.com/application/topic.asp?file=viral_in/7178&type=A&selectedTitle=3~23**

Medical Mystery Tour

CC: I feel really cold and my side hurts, plus I am shaking all

Let us recap from last month

A 21 year old G2 P1001presented complaining of nausea, vomiting, shaking chills, and contractions every 2 minutes.

The patient was 37 3/7 weeks EGA by a 32 week ultrasound. Her prenatal history was not significant, but then again she had only 3 total prenatal visits.

Her initial urinalysis showed WBC 10-30 hpf, positive leukocyte esterase, bacteria 1+, 3 + ketones, epithethial cells 1-5 hpf, trace protein, nitrite negative, and negative casts.

The patient was admitted with a diagnosis of pyelonephritis and treated with Ceftriaxone 1 gm intravenously. Later that day the laboratory reported a preliminary blood culture result with gram positive cocci in clusters. Gentamicin 140 mg IV and vancomycin 500 mg IV were added to the antibiotic regime.

"…urine with 10–30 WBC can be… consistent with an inflammatory process adjacent to the ureter and bladder…."

The patient was subsequently transferred to a tertiary care facility approximately 500 miles away by air ambulance. Upon arrival the patient was afebrile, but had shaking chills. The patient had developed exquisite right flank pain. The physical examination was otherwise essentially unchanged. The cervix was 1 cm dilated, thick, and – 3 station

The referring facility subsequently reported the preliminary positive blood culture as gram negative rods. The patient's gentamicin was changed to 100 mg q 8 hours IV and the vancomycin was stopped. The pyelonephritis patient was suspected of urosepsis. Five hours after admission the patient's white blood cell count increased to 26,100 cells /microL and the patient continued to have right flank and right lower quadrant pain. The right flank pain now required intermittent intravenous morphine.

The General Surgery team concurred that the patient had pyelonephritis with a suspected perinephric abscess. They suggested adding vancomycin back to the regimen because of the preliminary positive blood culture at the referring facility had suggested gram positive cocci in clusters and was still unidentified. There was a significant prevalence of methicillin resistant Staphylococcus aureus infection in the patient's home region. The General Surgery Service agreed with obtaining a renal ultrasound in the morning.

QUESTION: Is there anything else would you like to do now for this patient diagnosed with urosepsis at 37 weeks EGA?

The rest of the story….

The General Surgery Service signed off the case after the renal ultrasound was reported as normal. Two days later the patient continued to have right flank and lower quadrant pain with a WBC of 22.9 K. The General Surgery Service was re-consulted and their suggested RUQ and RLQ ultrasounds were both negative, though there was a term fetus in the pelvis.

In the meantime, the blood culture was reported pan sensitive E. coli. In view of the continued symptoms, the General Surgery team suggested primary cesarean delivery and exploratory laparotomy / appendectomy (whether it was inflamed or not) versus vaginal delivery and computerized tomography after delivery. After discussion of the risks and benefits, a misoprostol cervical ripening was begun. The previous antibiotics were discontinued and the patient was started on ampicillin sulbactam 3 g q 6 IV.

After the misoprostol 50 ug was placed vaginally, a prior blood culture returned with a second organism, a slender, elongated Gram negative rods, consistent with Bacteroides fragilis.

If there wasn't enough complicating the last few days of this patient's pregnancy, her midwife noted an unusual presenting structure. This was later confirmed to be a face presentation in right mentum transverse. In a rare stroke of good luck that week, the patient subsequently rotated her fetus to mentum anterior and delivered a normal infant in a double set up delivery suite later that evening.

Post partum, the patient's WBC decreased 9.8K, but she continued with the same right sided pain. Computerized tomogram with contrast revealed a phlegmon surrounding a dilated appendix and appendicolith.

Approximately 12 hours postpartum, the patient underwent an exploratory laparotomy. The General Surgery team discovered a hardened retrocecal appendix which was completely avulsed at the base. The avulsion occurred either with the gentle attempts to visualize the appendix, or having already separated from the cecum. There was also a large appendicolith inferior to this. There was spillage of purulent material, but no bowel contents. An attempt was made to find where the base of the appendix came off the cecum. Two possible areas were treated with a 1-0 endoloops. The surgical incision was left open initially, but received a loose closure on postoperative day 2. The patient subsequently had an unremarkable postpartum course and was discharged on post partum day 3. The patient called back 2 weeks later and thanked the night shift L/D staff members for their care.

OB/GYN CCC Editorial

In retrospect, the initial urinalysis with WBC 10-30 hpf, was somewhat misleading, but consistent with an inflammatory process adjacent to the ureter and bladder. Microscopic hematuria and pyuria are found in up to one-third of patients with acute appendicitis.

Patients with pyelonephritis patients will often continue ➔

➔ to spike temperatures, while they otherwise improve other symptoms, though this patient's fever curve became increasing atypical for pyelonephritis. Lastly, though the lab result returned after the clinical decision was made to begin cervical ripening and post partum CT scan, the second positive blood culture with a different organism suggested a polymicrobial septic process.

Escherichia coli is the major causative pathogen in both uncomplicated upper and lower urinary tract infection, being present in approximately 70 to 95 percent of cases. Staphylococcus saprophyticus is found in 5 to 20 percent of cases of cystitis or even higher in some studies. It can also cause pyelonephritis. Occasionally other Enterobacteriaceae such as Proteus mirabilis and Klebsiella species or enterococci are isolated from the urine of patients with acute pyelonephritis.

A renal abscess is an uncommon infection of the urinary tract. It can develop by one of two general mechanisms: hematogenous spread, which usually results in a cortical abscess; and ascending infection from the bladder, which primarily involves the medulla in most cases. In this patient's case the renal ultrasound was negative.

Appendicitis in Pregnancy

Acute appendicitis is the most common general surgical problem encountered during pregnancy, occurring equally in all trimesters. Estimates of its incidence have ranged from 0.1 to 0.06 percent of deliveries.

The clinical features depend upon the stage of pregnancy, which may make diagnosis more difficult than in nonpregnant women. Because the location of the appendix migrates upward with the enlarging uterus, the location of pain or tenderness is variable. Other physiologic changes that occur during pregnancy may also cause confusion. As an example, the normal white blood cell count ranges from 6000 to 16000 cell/mm3 in the first and second trimesters, and may rise to 20,000 to 30,000 cells/mm3 in labor. Another difficulty arises in the reluctance to expose pregnant women to radiation needed for diagnostic imaging.

These problems were underscored by the variable conclusions reached in a number of series of appendicitis in pregnancy. As an example, in three series with a total of 181 patients with suspected appendicitis, the pattern of presenting complaints, laboratory and physical examination were unhelpful for establishing the diagnosis. In contrast, a third report comparing clinical features in 28 pregnant women with appendicitis to matched nonpregnant controls found no significant differences in clinical presentation.

Ultrasonography is safe and (as in nonpregnant women) may be helpful for diagnosis. In a series of 45 patients, for example, the sensitivity, specificity, and accuracy were estimated to be 100, 96, and 98 percent, respectively. The gravid uterus prevented adequate sonographic examination of the appendix in only three women, each of whom was near term.

Considering the above studies, and clinical experience, the diagnosis of appendicitis should be considered in pregnant women complaining of new abdominal pain. The decision to proceed to laparotomy should be based upon the clinical and sonographic features and clinical judgment. The greatest risk is delayed intervention, which increases the risk of perforation. In two retrospective reviews, perforation occurred in 14 to 43 percent of patients. All of these patients had symptoms for longer than 24 hours. In another series that included 333 patients, fetal loss was much more frequent in patients in whom the appendix had perforated (36 versus 1.5 percent, respectively). Given the diagnostic difficulties and significant risk of fetal mortality with perforation, a higher negative laparotomy rate (20 to 35 percent) compared to nonpregnant women has generally been considered to be acceptable.

Maternal morbidity following appendectomy is low except in patients in whom the appendix has perforated. In contrast, pregnancy related complications are frequent, particularly when surgery was performed in the first or second trimester. This was illustrated in a series of 56 women who underwent appendectomy in various trimesters. Spontaneous abortion was observed in 4 of 12 patients (33 percent) who underwent appendectomy in the first trimester while 4 of 28 (14 percent) patients operated on in the second trimester delivered prematurely. No pregnancy complications were observed in women who underwent appendectomy in the third trimester.

Although an appendectomy is usually performed through a transverse incision over the point of maximal tenderness, a midline vertical incision is preferred by some surgeons since it permits adequate exposure of the abdomen for diagnosis and treatment of surgical conditions that mimic appendicitis. It also can be used for a cesarean delivery, if subsequently required for the usual obstetric indications. Dehiscence during vaginal delivery should not be a concern when the fascia has been appropriately re-approximated.

There have been several reports on the use of laparoscopic appendectomy in pregnancy suggesting that such procedures can be performed successfully during all trimesters and with few complications. However, considerable skill is required to perform such procedures in the presence of an enlarged uterus. Although promising, further studies are needed to better document the safety and efficiency of this approach. The long-term prognosis for women who underwent appendectomy is good. Such women do not appear to be at increased risk for infertility or other complications.

Resources:

Appendicitis in adults, UpToDate: **www.uptodateonline.com/application/topic.asp?file=gi_dis/20863&type=A&selectedTitle=1~28**

Acute pyelonephritis: Microbiology and pathogenesis, UpToDate: **www.uptodateonline.com/application/topic.asp?file=uti_infe/2148&type=A&selectedTitle=1~30**

Renal and perinephric abscess, UpToDate: **www.uptodateonline.com/application/topic.asp?file=uti_infe/4973&type=A&selectedTitle=1~6**

Midwives' Corner

Marsha Tahquechi, CNM

Shoulder Dystocia

Shoulder dystocia though a relatively rare complication of vaginal birth, 0.6-1.4%, yet is one of the most dire of obstetric emergencies. Though associated with certain risk factors shoulder dystocia is largely unpredictable in its occurrence and preventability.

Shoulder dystocia is described as either the impaction of the anterior shoulder behind the symphysis pubis, or as the impaction of the posterior shoulder behind the sacral promontory. Resulting neonatal morbidities such as permanent brachial plexus injuries and /or mental impairment are one of the leading causes of malpractice litigation. This month's Midwives' Corner reviews shoulder dystocia from a variety of perspectives:

HELPS shoulder dystocia simulator training program

In a recent personal communication with Susan DeJoy, Director of the Midiwifery Service at Baystate Medical Center in Springfield Mass, we discussed the history and the origin of the HELPS shoulder dystocia simulator training program.

We (Dept Ob/GYN at Baystate Medical Center) developed and implemented a shoulder dystocia simulation training program in the spring of 2002, entitled HELPS ('call for Help, cut Episiotomy if needed, Legs back, Posterior arm, Suprapubic pressure). Modeled after other simulations commonly used in health care for rare emergencies (CPR, NNR, ALSO), the training included both theory/didactic and skills practice portions. Emphasis was placed on teamwork, skills development, understanding other team members' roles, patient communication skills and risk reduction. All birth attendants—physicians, midwives, residents and nurses—were required to attend, and the Ob/Gyn Department Chair added certification in HELPS training to requirements for credentialing.

The training program was 1-2 hrs in length: a short (<30min) overview of essential skills and maneuvers for each member of the team, who was in charge during an event, who needed to respond when help was called for (more on this later). Then the majority of time was spent practicing shoulder dystocia management with 'Noelle', a manikin specially designed to teach birth skills. Participants were divided up into teams—provider, nurse, resident—and had to go through a predetermined set of steps to manage the problem. Just like what you do in CPR certification. Everyone was then checked out and rec'd a certificate of completion. If you are a credentialed provider here, that certificate needed to be submitted to the Medical Staff office for re-credentialing. Once you have initial certification, you get recertified every 2 years by watching the CDROM and completing a posttest. A certificate is printed at the end of the posttest which, again, must go to medical staff office for re-credentialing. The med staff office has verification of SD training as another checkbox on there forms, along with license verification, etc.

We discovered several systems issues as we implemented the training. First was, when/how to call for help to get the right people to come to the right place. We had an existing 'code white' stat page to gather a team in the OR to do a stat section, so we piggy-backed onto that: calling a code white to an LDRP room instead of the OR now means shoulder dystocia, and the code white team's beepers go off and the code white is announced overhead ('Code White, Rm 1809'). The team that arrives is the charge nurse, the pod coordinator (another RN on the unit), the OR tech, the house attending, the anesthesia attending and the 3rd and 4th year residents. We also discovered that it was important that the L&D secretaries knew what this was all about, as they could get lab slips ready for cord gases, etc, could call NICU team down, could get baby bands ready in case of fast transfer to NICU, etc.

…do suprapubic pressure correctly…

—

…breaking the bed issue….

'Couple of other insights:

How to do suprapubic pressure correctly.

Many providers did not know that the FIRST thing you do is move the baby's shoulders to the oblique diameter; that going after the posterior shoulder was less traumatic than Wood's maneuver; and that episiotomy was not essential.

"Breaking the bed" issue: CNMs generally do not break beds for delivery, but that the doc who comes in to help you always breaks the bed and is somewhat incapacitated when they find the bed not broken. We also had to come to consensus on this. Talking this out, really helped. The docs now understand they might find the bed intact, and if that is a problem, they just say 'Break the bed!' and it will happen fast. Teaching alternative maneuvers to Wood's maneuver also helped.

The midwives understand that when you call for emergency help, you facilitate what your consultant needs without hesitation or discussion. Having the code white team arrive helps all of this, as there are enough people to do what ever is needed quickly.

Other Resources: Two relevant articles are also offered for your review. They review etiology, risk factors, management and prevention as well as offer suggestions for appropriate documentation to aide the provider and limit litigation due to negligence.

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➔ *Jevitt CM. Shoulder dystocia: etiology, common risk factors, and management. J Midwifery Womens Health. 2005 Nov-Dec;50(6):485-97.*

CONCLUSION In a laboratory model of initial maneuvers for shoulder dystocia, anterior Rubin's maneuver requires the least traction for delivery and produces the least amount of brachial plexus tension.

Gurewitsch ED, et al Comparing McRoberts' and Rubin's maneuvers for initial management of shoulder dystocia: an objective evaluation.

OB/GYN CCC Editorial comment:

If shoulder dystocia is a concern, some clinicians have empirically advocated immediately proceeding to delivery of the fetal shoulders to maintain the forward momentum of the fetus. (See 'CCC Deliver Through' maneuver for Shoulder Dystocia Prevention below) Others support a short delay in delivery of the shoulders, arguing that the endogenous rotational mechanics of the second stage may spontaneously alleviate the obstruction.

Clinical Pearl: Try the 'CCC Deliver Through' maneuver for Shoulder Dystocia Prevention

One maneuver to completely avoid shoulder dsystocia is to continue the expulsive momentum and deliver the presenting part on through to the visualization of the anterior shoulder without stopping for suctioning the oropharynx, fetal mouth, or nares, and/or to reduce a nuchal cord.

What does the 'CCC Deliver Through' maneuver entail?

If you have any suspicion that the patient may be at risk for shoulder dystocia, then consider the following:

Pre-'CCC Deliver Through' maneuver: First, try to gauge the expulsion of the head for the initial peak of a contraction, e.g., not at the end of third Valsalva maneuver in a 60-90 second contraction in an exhausted parturient.

If a regional anesthetic has been utilized, then also make sure that the anesthetic is at a nadir on motor function.

"…try the 'CCC Deliver Through' maneuver for Shoulder Dystocia Prevention.."

'CCC Deliver Through' maneuver: As soon as the head presents itself in the cardinal movements from extension, restitution and onto external rotation, the provider should continue that momentum with gentle posterior traction toward the rectum on the fetal parietal bones until you clearly see delivery of the fetal anterior shoulder emerging from beneath the symphysis. Alternately one hand can be over the face and the other hand on the occiput to continue the momentum.

At this time ask the mother to pant while you suction the infant as needed, or reduce any obstructing elements of the umbilical cord. Then ask the patient to continue to bear down gently and deliver the posterior shoulder and body.

Please note: This is unlike what some classic obstetrics texts recommend for the normal course of delivery of the fetal head.

The main difference is that you do not halt the momentum after restitution or external rotation to suction the oropharynx. Also you do not halt the momentum to reduce a nuchal cord unless it is critically tight. Both suctioning and movement of the cord can be completed after delivery of the anterior shoulder.

After delivery of the anterior shoulder, then continue as you would normally, e.g., ask the mother to pant while you suction the oropharynx or manipulate the cord, then direct the fetal body anteriorly until the posterior shoulder passes the perineum to accomplish complete delivery. Please protect the perineum as you complete the delivery process after delivery of the anterior shoulder.

Pelvic Geometry: Once the head is out of the vagina, the head restitutes and the neck untwists. After a few moments, external rotation takes place as the shoulders move from the oblique to the anteroposterior diameter of the pelvis. One possible advantage is if the 'CCC Deliver Though' maneuver is done quickly enough, the accoucheur may deliver the anterior shoulder before the shoulders reach the full anteroposterior diameter of the pelvis that they achieve when external rotation occurs.

Caveat: While this maneuver seems to work 100% of the time in our less than random sample, we should be skeptical of anything that seems to work so well.

A random sample of ~10 providers on L/D had heard of it, and many did it when the suspected a risk of shoulder dystocia was an imminent risk. In fact it was so common that no one had a separate name for it…it was an unnamed automatic reflex. In addition, it seems to be used more commonly as the incidence of heavy parturients increases.

This maneuver is essentially unstudied, e.g., perhaps just by the fact that one could perform the 'CCC Deliver Through' maneuver at all meant that the shoulder dystocia was not going to occur anyway…or that the development of the true shoulder dystocia geometry would not allow one to deliver through to the anterior shoulder regardless.

On the other hand, it may be more like the insurance business…if you have an expensive flood policy…then you'll never even see a heavy drizzle.

Resources

Shoulder Dystocia ACOG Practice Bulletin Number 40, November 2002. Obstet Gynecol. 2002 Nov;100(5 Pt 1):1045-50.

Gherman RB. Shoulder dystocia: prevention and management. Obstet Gynecol Clin North Am. 2005 Jun;32(2):297-305

Navajo News

Jean Howe, Chinle

Depo-Provera available in a lower dose: limited data to assess 104mg SQ vs. 150mg IM

After the recent dramatic shifts in available information about the contraceptive patch, it is with some trepidation that I again address a hormonal contraceptive topic. But similar shifting sands of popularity and concern affect Depo-Provera and warrant ongoing attention.

Depo-Provera (depot medroxyprogesterone acetate or DMPA given 150 mg IM every 12 weeks) was first approved for use in the United States by the FDA in 1992. This approval came after many years of widespread international use and DMPA quickly became popular in the U.S. as well. One issue that has limited its popularity is the weight gain often associated with DMPA use. The manufacturer product information states that, from an average initial body weight of 136 pounds, women gained an average of 5.4 pounds with one year of use, 8.1 pounds with 2 years of use, 13.8 pounds with 4 years of use, and 16.5 pounds with 6 years of use. A study done at Shiprock by Espey, et al, compared 172 women who used DMPA for one or two years with 134 women who used a non-progestin-based method or no method. The women using DMPA gained an average of 6 pounds more than the comparison group with one year of use and 11 pounds more with 2 years of use, thus suggesting that the weight gain issues may be even more significant with DMPA for Navajo women. DMPA use may thus indirectly increase the risk of diabetes and other health problems associated with obesity.

A more recent concern about DMPA is that the bone loss associated with long-term use may not completely resolve after DMPA is discontinued. These concerns have resulted in the addition of a "black box" warning recommending that use be limited to two years unless other forms of birth control are inadequate. Strategies to address these concerns are outlined in the January 2005 CCC Corner. The two year restriction remains controversial. In June 2005 the World Health Organization issued a statement on Hormonal Contraception and Bone Health recommending that:

- There should be no restriction on the use of DMPA, including no restriction on duration of use, among women aged 18 to 45 who are otherwise eligible to use the method.
- Among adolescents (menarche to <18) and women over 45, the advantages of using DMPA generally outweigh the theoretical safety concerns regarding fracture risk. Since data are insufficient to determine if this is the case with long-term use among these age groups, the overall risks and benefits for continuing use of the method should be reconsidered over time with the individual user.

Despite concerns about weight gain and bone health, DMPA remains a preferred contraceptive for many Navajo women. Thus any improvement in the side effect profile would be important.

In December 2004 the FDA approved marketing of a lower dose formulation of DMPA, marketed under the name "depo-subQ provera 104" (DMPA-SC). It contains 30.7% less medroxyprogesterone acetate and is administered subcutaneously into the anterior thigh or abdominal wall. The product information describes three clinical trials where the weight gain averaged 3.5 pounds in the first year of use. A smaller comparison trial showed similar weight gain to DMPA-IM (7.5 vs. 7.6 pounds). The "black box" warning about bone loss is identical although this issue does not seem to have been studied yet in DMPA-SC. The subcutaneous formulation is believed to provide slower absorption with a lower early peak in dose and a lower total dose delivered; whether this will be shown to result in a lower side effect profile is not yet known. The SC and IM formulations are different and cannot be used interchangeably. One of the most interesting features of DMPA-SC is that patient self-administration may be possible; this would be a potential benefit to the many patients who find it difficult to keep clinic appointments every 12 weeks. In March 2005, DMPA-SC was approved by the FDA for the treatment of endometriosis pain.

Alas, a lower dose does not mean a lower cost. Local pricing inquiries revealed the following:

Depo-Provera 150mg IM prefilled syringe: $32.34
Depo-Provera 104mg SQ prefilled syringe: $48.85

This compares to an average cost locally of $4 to $29 for 12 weeks of OCPs, $66 for 12 weeks of Ortho-Evra patches, $262 for a Mirena IUD, or $40 for a Paraguard IUD. Whether the 50% increase in price for a 31% decrease in dose is a worthwhile investment will depend on additional studies of weight gain, bone density, and other issues. It may be especially valued by some women who are willing to self-administer DMPA-SC and find it burdensome to come to clinic every 12 weeks.

Resources

Espey E, Steinhart J, Ogburn T, Qualls C. "Depo-Provera associated with weight gain in Navajo Women". Contraception. 2000. 62:55-58.

World Health Organization. "WHO Statement on Hormonal Contraception and Bone Health". July 2005.

Jain J, Dutton C, Nicosia A, Wajszczuk C, Bode FR, Mishell DR. "Pharmacokinetics, ovulation suppression and return to ovulation following a lower dose subcutaneous formulation of Depo-Provera". Contraception. 2004. 70:11-18.

Jain J, Jakimiuk AJ, Bode FR, Ross D, and Kaunitz AM. "Contraceptive efficacy and safety of DMPA-SC". Contraception. 2004 70:269-275.

Lakha F, Henderson C, Glasier A. "The acceptability of self-administration of subcutaneous Depo-Provera". Contraception. 2005. 72:14-18.

(IHS Child Health Notes, continued from page 3)

Announcements from the AAP Indian Health Special Interest Group

Sunnah Kim, MS

Native American Child Health Advocacy Award—Call for Nominations

Each year, the AAP Committee on Native American Child Health presents the Native American Child Health Advocacy Award to recognize an individual who has made a major contribution to Native American child health.

The AAP Committee on Native American Child Health will be accepting nominations for the 2006 Native American Child Health Advocacy Award through February 28, 2006. The award will be presented at the 2006 AAP National Conference and Exhibition to recognize an individual who has made a major contribution to promoting Native American child health. If you know of a physician or non-physician who merits this recognition, please submit a letter of nomination, along with the candidate's CV to:

Committee on Native American Child Health
American Academy of Pediatrics
141 Northwest Point Blvd
Elk Grove Village, IL 60007
Fax: 847/434-8729
indianhealth@aap.org

Invitation to Submit Manuscripts

The MCH Journal is planning to publish a supplemental issue titled, "Research for MCH Practice in American Indian and Alaskan Native Communities". Investigators are invited to submit manuscripts for consideration. Manuscripts may report epidemiological studies, research on health services, intervention trials, and program evaluations. Submissions that are authored or co-authored by American Indians and Alaskan Natives are especially encouraged. Additional information can be found in the attached announcement or by contacting Myra Tucker, supplement associate editor, at mjt2@cdc.gov or 770/488-6267.

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 on-line 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

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(GDM and Type 2 DM, continued from page 1)

cologic interventions may be of value in preventing the development of type 2 diabetes in patients with impaired glucose tolerance (or prediabetes). Drug therapy with metformin (a biguanide) or acarbose (an alpha-glucosidase inhibitor) has been shown to delay or prevent the progression of impaired glucose tolerance to type 2 diabetes.

The thiazolidinedione troglitazone, which is no longer available, has also been shown to have a similar effect to other insulin sensitizers. Current expert opinion is that this is most likely a class effect, and is not specific to troglitazone only.

Troglitazone was removed from the market due to cases of hepatic failure. That is part of the reason for the required LFT monitoring with pioglitazone and rosiglitazone. Pioglitazone and rosiglitazone do not seem to cause hepatic failure as troglitazone did. Pioglitazone and rosiglitazone are considered similar to troglitazone and safe. It was initially recommended to monitor liver function test (LFT's) at baseline and every 2 months for the first year of therapy, periodically thereafter. The package insert has been relaxed and now recommends LFT's at baseline and periodically thereafter.

While the particular pharmacological treatment used by Buchanan et al is no longer available to us, it appears that it was a drug class effect not limited to that particular agent. On the other hand, diet, exercise and metformin are widely available.

Study	Population	N	Intervention	Duration	Results
Da Quing	IGT	577	Diet+Exercise	6 years	-42%
Finnish DPS	IGT	521	Diet+Exercise	6 years	-58%
NIH DPP	IGT	3324	Diet+Exercise Metformin	3+ years	-58% -31%
TRIPOD	GDM	235	Troglitazone	3 years	-56%
Stop–NIDDM	IGT	1429	Acarbose	3 years	-21%

SAVE THE DATES

Advances in Indian Health, 6th Annual

- May 2–6, 2006
- Albuquerque, NM
- **www.ihs.gov/MedicalPrograms/MCH/M/CN01.cfm#May06**

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** **December 2005**

Abstract of the Month

- Link between GDM and Type 2 DM can be broken

IHS Child Health Notes

- Cost of Influenza Hospitalization
- Hepatitis A Vaccine: Nice Success Story—New Recommendations.
- Comprehensive primary care for children with special health care needs in rural areas

From Your Colleagues

- Carolyn Aoyama, HQE—Gestational Diabetes: ACOG/IHS Obstetrics, Neonatal and Gynecologic Care
- Tom and Edith Welty, Flagstaff—Integrating prevention of mother-to-child HIV transmission into routine antenatal care

Hot Topics

- Obstetrics—Bed Rest for pregnancy related hypertension: Bed rest should not be recommended
- Gynecology—Prior Function and Relationship, More Than Hormones, Affect Sexual Function in Midlife
- Child Health—Adolescents: Low-dose oral contraceptive relieved dysmenorrhea-associated pain
- Chronic Illness—Aromatase inhibitors—a triumph of translational oncology—Breast Cancer

Features

- ACOG—Vaginal Birth Not Associated With Incontinence Later in Life
- Breastfeeding—Special Editorial: Suzan Murphy, new CCCC columnist
- Perinatology Picks—Antiviral Treatment for Herpes Simplex Virus
- Midwives' Corner—HELPS shoulder dystocia simulator training program
- Navajo News—Depo-Provera available in a lower dose: limited data to assess 104mg SQ vs. 150mg IM