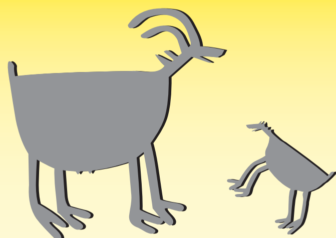

CCC Corner

NATIONAL COUNCIL OF CHIEF CLINICAL CONSULTANTS

Focus on the Health of American Indians and Alaska Natives

Vol 6, No 06
June 2008

Metformin versus Insulin
for the treatment of gestational diabetes

BACKGROUND: Metformin is a logical treatment for women with gestational diabetes mellitus, but randomized trials to assess the efficacy and safety of its use for this condition are lacking.

METHODS: We randomly assigned 751 women with gestational diabetes mellitus at 20 to 33 weeks of gestation to open treatment with metformin (with supplemental insulin if required) or insulin. The primary outcome was a composite of neonatal hypoglycemia, respiratory distress, need for phototherapy, birth trauma, 5-minute Apgar score less than 7, or prematurity. The trial was designed to rule out a 33% increase (from 30% to 40%) in this composite outcome in infants of women treated with metformin as compared with those treated with insulin. Secondary outcomes included neonatal anthropometric measurements, maternal glycemic control, maternal hypertensive complications, postpartum glucose tolerance, and acceptability of treatment.

RESULTS: Of the 363 women assigned to metformin, 92.6% continued to receive metformin until delivery and 46.3% received supplemental insulin. The rate of the primary composite outcome was 32.0% in the group assigned to metformin and 32.2% in the insulin group (relative risk, 1.00; 95% confidence interval, 0.90 to 1.10). More women in the metformin group than in the insulin group stated that they would choose to receive their assigned treatment again (76.6% vs. 27.2%, P<0.001). The rates of other secondary outcomes did not differ significantly between the groups. There were no serious adverse events associated with the use of metformin.

CONCLUSIONS: In women with gestational diabetes mellitus, metformin (alone or with supplemental insulin) is not associated with increased perinatal complications as compared with insulin. The women preferred metformin to insulin treatment.

Rowan JA et al Metformin versus insulin for the treatment of gestational diabetes. N Engl J Med. 2008 May 8;358(19):2003-15.

OB/GYN CCC Editorial comment:
We have been waiting a long time for this study

Metformin is a much better physiologic fit for GDM than glyburide because metformin essentially sensitizes the muscles to what is an already relatively elevated insulin level. Though metformin is a Pregnancy Class B agent, we had been reluctant to use it widely because it can cross the placenta, and randomized trials to assess the efficacy and safety of its use for this condition were previously lacking till Rowan et al.

Please see the Ecker and Greene NEJM Editorial for more comments

Ecker JL, Greene MF. Gestational diabetes—setting limits, exploring treatments. N Engl J Med. 2008 May 8;358(19):2061-3.

THIS MONTH

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ACOG / IHS Course in Salt Lake City, Utah this year

Obstetric, Neonatal and Gynecologic Care
September 14–18, 2008
Salt Lake City, Utah

This annual women's health update for Nurses, Advanced Practice Clinicians, and physicians provides four days of lectures, workshops, and hands-on sessions. The course is a good foundation for those who are new to women's health care or new to the Indian health system. Many faculty members are from IHS and Tribal facilities. A Neonatal Resuscitation Program is also available.

Early registration holds your place, and puts you in line for a possible scholarship.

Contact
ymalloy@acog.org

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

Neil J. Murphy

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

IHS Child Health Notes

"It doesn't matter if the cat is black or white as long as it catches mice."
—Chinese Proverb

Quote of the month

"Anger is contagious."
—Sandra Cisneros

Articles of Interest

Identification and Evaluation of Children with Autism Spectrum Disorders.

Pediatrics 120: 5; 1183-1213 November 2007

Management of Children with Autism Spectrum Disorders.

Pediatrics 120:5; 1161-1182 November 2007

These two clinical reports published in Pediatrics in November 2007 provide a complete summary for the clinician on autism spectrum disorders (ASDs). The review last month highlighted the identification and evaluation of children with autism spectrum disorders. The review this month will describe management strategies.

Summary

Autism Spectrum Disorders (ASDs) are not rare with an estimated frequency in Europe and North America of 1/150 births. Given this frequency most primary care providers will care for several patients with this disorder.

ASDs, like other neurodevelopmental disorders are generally not curable but can benefit from management like other chronic diseases. The goal is to minimize the deficits associated with ASD such as speech impairment and social interactivity while maximizing the potential of patients to function independently.

There are a variety of modalities used to treat ASDs. Relatively few of these have been rigorously evaluated. The most work has been done with applied behavior analysis, a form of behavior modification. Studies have shown improvement in IQ measurements, academic performance, and social adaptiveness. For interventions to be effective they need to be intensive and sustained which is defined as one on one teaching for a minimum of 25 hours/week.

Medical management is also discussed. Seizures occur in 20-40% of children with autism and treatment is based on the same principles used to treat other children with epilepsy. Challenging behavior, especially behaviors that include aggression or self-injurious may benefit from a trial of medications. SSRIs have been used for the past decade. Recently Risperidone® has been licensed by the FDA for use for symptoms of irritability and aggression in children with ASDs.

Lastly, a large number of biological and non-biological treatments have been offered for treatment of ASDs. Appropriately designed trials have show no benefit for treatment for the following; dimethlyglycine, vitamin B6, magnesium, secretin, auditory integrative training and facilitated communication. Many other treatments have not been rigorously evaluated but are offered to patients; these include immunotherapy, chelation, anti-fungals, various elimination diets and complementary and alternative medicines. The physician's job is to help families use the best evidence to choose therapies with proven benefit and avoid therapies with potential risks.

Editorial Comment

There is no cure for ASDs. Medical therapies for ASDs are limited but may be of benefit for specific indications. Educational interventions have the most potential but require personnel who are familiar with ASDs and can devote intensive time treatment. There is good evidence that children need intervention as soon as the diagnosis of ASD is entertained and that the intervention needs to be intensive with a minimum of 25/hours a week. This kind of expertise and intensive treatment could be made available through Head Start or public schools. The reality in many rural settings is that these patients may struggle to get the services they need. The physician's job is to be an advocate at the school for needed services.

Infectious Disease Updates.

Rosalyn Singleton, MD, MPH

&

Recent Literature on American Indian/Alaskan Native Health

Michael L. Bartholomew, MD

In a moment of unconscious communication Drs. Singleton and Bartholomew both submitted reviews on the same article. This study below demonstrates that the persistence of substandard housing and plumbing accounts for at least some of the continuing disparity in infectious disease burden for AI/AN children. As physicians we often focus on medical determinants, such as vaccines and antibiotics, and may overlook many of the other important factors in health.

Hennessy TW, Ritter T, Holman RC, Bruden DL, Yorita KL, Bulkow L, Cheek JE, Singleton RJ, Smith J. The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives. American Journal of Public Health June 2008 Vol 98 No. 5

Modern water and sanitation services have long been known to be important in improving health and reducing the transmission of infectious diseases. During the first half of the 20th century, multiple surveys attempting to assess the health status of American Indians and Alaska Natives (AI/AN) cited a lack of water and waste disposal services as significant causal factors to the high rates of infectious diseases among AIs and ANs.1 In 1959, The Indian Sanitation Facilities Act (P.L. 86-121) authorized the Indian Health Service to provide water and sanitation services to homes and communities. Since its inception, the impact on Native Health has been dramatic with reductions in morbidity and mortality from infectious diseases among AI/ANs.

This study investigates the relationship between modern sanitation services (in-home water services and wastewater disposal services) and hospitalization rates for respiratory, skin, and gastrointestinal tract infections in rural Alaska villages. Between 2000 and 2004, in-home water and waste disposal services were surveyed and analyzed in rural villages within defined regions in Alaska. Water service data for one region (Region A) was further examined on a village level. Additionally, regional and village level (Region A) hospitalization rates for infectious gastroenteritis, pneumonia or influenza, RSV among children less than 5 years, skin or soft tissue infection, and methicillin resistant Staphylococcus aureus (MRSA) infections were obtained and compared.

Overall, in-home water service was present in 73% (range 57%-100%) of homes while 71 %(range 55%-100%) of homes had wastewater services. This is in comparison to the 99.4% of homes in the United States with modern sanitation services. Unevenly distributed, 61% of homes had in-home water service within Region A (designated a low service area). Thirty percent of the population (less than 10% of homes) within Region A lived in homes that lacked modern sanitation. The largest town had 99.5% of homes with in home water service, accounting for 23% of the Region A's population.

Regional hospitalization rates differed by water service level. Children less than 5 years of age living in low service regions were 3.4 times more likely to be hospitalized for RSV than children living in high service regions (95%CI=3.0,3.8). This trend can also be seen in all ages with pneumonia or influenza (RR=2.5; 95% CI= 2.4, 2.7)), skin or soft tissue infections (RR=1.9; 95% CI=1.8, 2.1)), and MRSA infections (RR=4.5; 95% CI=3.6, 5.7)). Hospitalization rates between high and low service regions for infectious gastroenteritis showed no difference. This may be related to the adequate availability of safe drinking water to all homes, low temperature of the water and nutritional status of the population. Within Region A, hospitalization rates for lower respiratory tract infections (LRTI), pneumonia, and RSV among infants were the highest in villages where less 10% of homes had in-home water service. Significant trends of decreasing rates of hospitalizations of infants with LRTI and LRTI with pneumonia, skin and soft tissue infections, Staphylococcus aureus infections and MRSA infections were seen with increase proportions of homes with in-home water service.

Despite the inability to draw casual conclusions, the results strongly suggest an association between water service and infectious disease. In-home water service is an important public health intervention. The authors conclude from the results of this study that the simple intervention of providing modern water and sanitation to all homes in rural Alaska villages would significantly improve health of Alaska native children. The same can be said for all homes on tribal lands.

Reference:

1. *Galloway JM, Goldberg BW, Alpert JS. 1999. Primary Care of Native American Patients: Diagnosis, Therapy, and Epidemiology. Boston: Butterworth-Heinemann*

Editorial Comment by Dr Singleton:

The study, published American Journal of Public Health, demonstrated that RSV hospitalization rates (Relative Rate [RR] = 3.4 in children <5 years), pneumonia and influenza hospitalization rates (RR=2.5), and skin or soft tissue infection rates (RR=1.9) were higher in Alaska regions with low levels of water service than those with high levels of service. Diarrheal disease hospitalizations were uncommon and rates were similar throughout Alaska; each village has a supply of potable water.

Lack of clean water and wastewater disposal may contribute to respiratory and skin infections by making hand washing and body hygiene more difficult because families are conserving water for cooking and drinking. In many other parts of Indian Country, the lack of in-home water service is similar to rural Alaska. This study highlights the importance of addressing non-medical household determinants of health through construction of in-home sanitation services. Providing these basic services has the potential to reduce respiratory, skin and diarrheal diseases, through availability of adequate amounts of potable water for consumption and hygiene.

From Your Colleagues

Chuck North, HQE

Effect of lower targets for blood pressure and LDL cholesterol on atherosclerosis in diabetes: the SANDS randomized trial in Native Americans

CONTEXT: Individuals with diabetes are at increased risk for cardiovascular disease (CVD), but more aggressive targets for risk factor control have not been tested.

OBJECTIVE: To compare progression of subclinical atherosclerosis in adults with type 2 diabetes treated to reach aggressive targets of low-density lipoprotein cholesterol (LDL-C) of 70 mg/dL or lower and systolic blood pressure (SBP) of 115 mm Hg or lower vs standard targets of LDL-C of 100 mg/dL or lower and SBP of 130 mm Hg or lower.

DESIGN, SETTING, AND PARTICIPANTS: A randomized, open-label, blinded-to-end point, 3-year trial from April 2003-July 2007 at 4 clinical centers in Oklahoma, Arizona, and South Dakota. Participants were 499 American Indian men and women aged 40 years or older with type 2 diabetes and no prior CVD events.

RESULTS: Mean target LDL-C and SBP levels for both groups were reached and maintained. Mean (95% confidence interval) levels for LDL-C in the last 12 months were 72 (69-75) and 104 (101-106) mg/dL and SBP levels were 117 (115-118) and 129 (128-130) mm Hg in the aggressive vs standard groups, respectively. Compared with baseline, IMT regressed in the aggressive group and progressed in the standard group (-0.012 mm vs 0.038 mm; $P < .001$); carotid arterial cross-sectional area also regressed (-0.02 mm(2) vs 1.05 mm(2); $P < .001$); and there was greater decrease in left ventricular mass index (-2.4 g/m(2.7) vs -1.2 g/m(2.7); $P = .03$) in the aggressive group. Rates of adverse events (38.5% and 26.7%; $P = .005$) and serious adverse events (n = 4 vs 1; $P = .18$) related to blood pressure medications were higher in the aggressive group. Clinical CVD events (1.6/100 and 1.5/100 person-years; $P = .87$) did not differ significantly between groups.

CONCLUSIONS: Reducing LDL-C and SBP to lower targets resulted in regression of carotid IMT and greater decrease in left ventricular mass in individuals with type 2 diabetes. Clinical events were lower than expected and did not differ significantly between groups. Further follow-up is needed to determine whether these improvements will result in lower long-term CVD event rates and costs and favorable risk-benefit outcomes.

Howard BV, et al., Effect of lower targets for blood pressure and LDL cholesterol on atherosclerosis in diabetes: the SANDS randomized trial. JAMA. 2008 Apr 9;299(14):1678-89.

Comment in:

Peterson ED, Wang TY., The great debate of 2008—how low to go in preventive cardiology? JAMA. 2008 Apr 9;299(14):1718-20.

Comments from Dr. North:

This important study is worth reading and considering when setting goals. Congratulations to the patients, communities, and authors for making this contribution to improve care.

The Pfannenstiel incision as a source of chronic pain

RESULTS: The response rate was 80% (690 of 866 patients). Subsequent to a follow-up after 2 years, one third (223 of 690) experienced chronic pain at the incision site. Moderate or severe pain was reported by 7%, and in 8.9% of respondents, pain impaired daily activities. Numbness, recurrent Pfannenstiel surgery, and emergency caesarean delivery were significant predictors of chronic pain. Nerve entrapment was present in over half the examined patients with moderate-to-severe pain (17 of 32).

CONCLUSION: Chronic pain occurs commonly after a Pfannenstiel incision. Nerve entrapment was found to be a frequent cause of moderate-to-severe pain.

Loos MJ, Scheltinga MR, Mulders LG, Roumen RM, The Pfannenstiel incision as a source of chronic pain. Obstet Gynecol. 2008 Apr;111(4):839-46.
www.ncbi.nlm.nih.gov/pubmed/18378742

Hot Topics

Obstetrics

HAPO Study Cooperative Research Group: Hyperglycemia and adverse pregnancy outcomes

BACKGROUND: It is controversial whether maternal hyperglycemia less severe than that in diabetes mellitus is associated with increased risks of adverse pregnancy outcomes.

METHODS: A total of 25,505 pregnant women at 15 centers in nine countries underwent 75-g oral glucose-tolerance testing at 24 to 32 weeks of gestation. Data remained blinded if the fasting plasma glucose level was 105 mg per deciliter (5.8 mmol per liter) or less and the 2-hour plasma glucose level was 200 mg per deciliter (11.1 mmol per liter) or less. Primary outcomes were birth weight above the 90th percentile for gestational age, primary cesarean delivery, clinically diagnosed neonatal hypoglycemia, and cord-blood serum C-peptide level above the 90th percentile. Secondary outcomes were delivery before 37 weeks of gestation, shoulder dystocia or birth injury, need for intensive neonatal care, hyperbilirubinemia, and preeclampsia.

RESULTS: For the 23,316 participants with blinded data, we calculated adjusted odds ratios for adverse pregnancy outcomes associated with an increase in the fasting plasma glucose level of 1 SD (6.9 mg per deciliter [0.4 mmol per liter]), an increase in the 1-hour plasma glucose level of 1 SD (30.9 mg per deciliter [1.7 mmol per liter]), and an increase in the 2-hour plasma glucose level of 1 SD (23.5 mg per deciliter [1.3 mmol per liter]). For birth weight above the 90th percentile, the odds ratios were 1.38 (95% confidence interval [CI], 1.32 to 1.44), 1.46 (1.39 to 1.53), and 1.38 (1.32 to 1.44), respectively; for cord-blood serum C-peptide level above the 90th percentile, 1.55 (95% CI, 1.47 to 1.64), 1.46 (1.38 to 1.54), and 1.37 (1.30 to 1.44); for primary cesarean delivery, 1.11 (95% CI, 1.06 to 1.15), 1.10 (1.06 to 1.15), and 1.08 (1.03 to 1.12); and for neonatal hypoglycemia, 1.08 (95% CI, 0.98 to 1.19), 1.13 (1.03 to 1.26), and 1.10 (1.00 to 1.12). There were no obvious thresholds at which risks increased. Significant associations were also observed for secondary outcomes, although these tended to be weaker.

CONCLUSIONS: Our results indicate strong, continuous associations of maternal glucose levels below those diagnostic of diabetes with increased birth weight and increased cord-blood serum C-peptide levels.

HAPO Study Cooperative Research Group Hyperglycemia and adverse pregnancy outcomes. N Engl J Med. 2008 May 8;358(19):1991-2002.

OB/GYN CCC Editorial comment:
We have been waiting an even longer time for this study

Dr. Donald Coustan explained the HAPO process to the assembled group at the American Indian Women's Health and MCH Conference in August 2007. (see Featured Website, below) The HAPO group will now discuss whether these findings can help delineate a new set of GDM criteria. The discussion will take place at the International Association of the Diabetes and Pregnancy Study Group June 11, 2008 - June 12, 2008 in Pasedena, CA.

Please see the Ecker and Greene NEJM Editorial for further comments.

Ecker JL, Greene MF. Gestational diabetes—setting limits, exploring treatments. N Engl J Med. 2008 May 8;358(19):2061-3.

Summary of ACIP Recommendations for Prevention of Pertussis, Tetanus and Diphtheria Among Pregnant and Postpartum Women and Their Infants

Use of Td or Tdap in Women Who Have Not Received Tdap Previously

- Routine postpartum Tdap. Pregnant women (including women who are breastfeeding) who have not received a dose of Tdap previously should receive Tdap after delivery and before discharge from the hospital or birthing center if 2 years or more have elapsed since the most recent administration of Td; shorter intervals may be used (see Special Situations). If Tdap cannot be administered before discharge, it should be administered as soon as feasible thereafter. The dose of Tdap substitutes for the next decennial dose of Td.
- Simultaneous administration. Tdap should be administered with other vaccines that are indicated. Each vaccine should be administered using a separate syringe at a different anatomic site.

Contraindications to Administration of Td and Tdap

The following conditions are contraindications to administration of Td and Tdap:

- a history of serious allergic reaction (i.e., anaphylaxis) to any component of the vaccine, or
- for Tdap (but not Td), a history of encephalopathy (e.g., coma or prolonged seizures) not attributable to an identifiable cause within 7 days of administration of a vaccine with pertussis components.

Precautions and Reasons to Defer Administration of Td or Tdap

The following conditions are reasons to defer administration of Td or Tdap:

- Guillain-Barré syndrome with onset 6 weeks or less after a previous dose of tetanus toxoid—containing vaccine;
- moderate or severe acute illness;
- a history of an Arthus reaction to tetanus toxoid— and/or diphtheria toxoid—containing vaccine less than 10 years previously;
- for adults, unstable neurologic conditions (e.g., cerebrovascu-

lar events or acute encephalopathic conditions); or

- for adolescents, any progressive neurologic disorder, including progressive encephalopathy or uncontrolled epilepsy (until the condition has stabilized).

Special Situations

Deferring Td During Pregnancy to Substitute Tdap in the Immediate Postpartum Period

ACIP recommends administration of Td for booster vaccination during pregnancy if 10 years or more have elapsed since a previous Td booster. To add protection against pertussis, health-care providers may defer the Td vaccination during pregnancy and substitute Tdap as soon as feasible after delivery if the woman is likely to have sufficient tetanus and diphtheria protection until delivery. Sufficient tetanus protection is likely if:

- a pregnant woman aged <31 years has received a complete childhood series of immunization (4—5 doses of pediatric DTP, DTaP, and/or DT) and >1 Td booster dose during adolescence or as an adult (a primary series consisting of 3 doses of Td (or TT) administered during adolescence or as an adult substitutes for the childhood series of immunization),*
- a pregnant woman aged >31 years has received a complete childhood series of immunization (4—5 doses of pediatric DTP, DTaP, and/or DT) and >2 Td booster doses,
- a primary series consisting of 3 doses of Td (or TT) was administered during adolescence or as an adult substitute for the childhood series of immunization,* or
- a pregnant woman has a protective level of serum tetanus antitoxin (>0.1 IU/mL by ELISA).

A woman should receive Td during pregnancy if she

- does not have sufficient tetanus immunity to protect against maternal and neonatal tetanus, or
- requires booster protection against diphtheria (e.g., for travel to an area in which diphtheria is endemic†).

Alternatively, health-care providers may choose to administer Tdap instead of Td during pregnancy (see Considerations for Use of Tdap in Pregnant Women in Special Situations).

Postpartum Tdap When <2 Years Have Elapsed Since the Most Recent Dose of Td

Health-care providers should obtain a history of adverse reaction after previous doses of vaccines containing tetanus and diphtheria toxoids. Limited information is available concerning the risk for local and systemic reactions after Tdap at intervals of <2 years. Providers may choose to administer Tdap to these women postpartum for protection against pertussis after excluding a history of moderate to severe adverse reactions following previous tetanus and diphtheria-toxoids—containing vaccines.

Health-care providers should encourage vaccination of household and child care provider contacts of infants aged <12 months. Women should be advised of the symptoms of pertussis and the effectiveness of early antimicrobial prophylaxis, if pertussis is suspected.

Considerations for Use of Tdap in Pregnant Women in Special Situations

ACIP recommends that Td be administered when booster protection is indicated during pregnancy. Health-care providers may choose to administer Tdap instead of Td during pregnancy to add protection against pertussis in situations when Td cannot be delayed until delivery or when the risk for pertussis is increased. In such cases, the women should be informed of the lack of data on safety, immunogenicity, and pregnancy outcomes for pregnant women who receive Tdap. Whether administration of Tdap to pregnant women results in protection of the infant against pertussis through transplacental maternal antibodies is unknown. Maternal antibodies might interfere with the infant's immune response to infant doses of DTaP or conjugate vaccines containing tetanus toxoid or diphtheria toxoid.

If Tdap is administered, the second or third trimester is preferred unless protection is needed urgently. Providers are encouraged to report Tdap administrations regardless of trimester to the appropriate manufacturers' pregnancy registry: for ADACEL,® to sanofi pasteur, telephone 1-800-822-2463 (1-800-VACCINE) and for BOOSTRIX,® to GlaxoSmithKline Biologicals, telephone 1-888-825-5249.

Tetanus Prophylaxis for Wound Management

ACIP recommends administration of a Td booster for wound management in pregnant women in certain situations if >5 years have elapsed since the previous Td. Health-care providers may choose to administer Tdap instead of Td during pregnancy to add protection against pertussis in these situations. In such cases, the women should be informed of the lack of data on safety, immunogenicity, and pregnancy outcomes for pregnant women who receive Tdap (see Considerations for Use of Tdap in Pregnant Women in Special Situations).

Pregnant Women with Unknown or Incomplete Vaccination

Pregnant women who have not received 3 doses of a vaccine containing tetanus and diphtheria toxoids should complete a series of three vaccinations, including 2 doses of Td during pregnancy, to ensure protection against maternal and neonatal tetanus. The preferred schedule in pregnant women is 2 doses of Td separated by 4 weeks and 1 dose of Tdap administered 6 months after the second dose (postpartum). Health-care providers may choose to substitute a single dose of Tdap for a dose of Td during pregnancy. In such cases, the women should be informed of the lack of data on safety, immunogenicity, and pregnancy outcomes for pregnant women who receive Tdap (see Considerations for Use of Tdap in Pregnant Women in Special Situations).

Prevention of Pertussis, Tetanus, and Diphtheria Among Pregnant and Postpartum Women and Their Infants: Recommendations of the Advisory Committee on Immunization Practices (ACIP)

MMWR May 14, 2008/57(Early Release);1-47

Gynecology

Management of Trichomonas vaginalis in women with suspected metronidazole hypersensitivity

BACKGROUND: Standard treatment for Trichomonas vaginalis is metronidazole or tinidazole. Hypersensitivity to these drugs has been documented but is poorly understood. Desensitization is an option described in limited reports of women with hypersensitivity to nitroimidazoles. The purpose of this analysis is to improve documentation of management for trichomonas infections among women with metronidazole hypersensitivity.

DESIGN: Clinicians who consulted Centers for Disease Control and Prevention concerning patients with suspected hypersensitivity to metronidazole were provided with treatment options and asked to report outcomes.

RESULTS: From September 2003-September 2006, complete information was obtained for 59 women. The most common reactions were urticaria (47%) and facial edema (11%). Fifteen of these women (25.4%) were treated with metronidazole desensitization and all had eradication of their infection. Seventeen women (28.8%) were treated with alternative intravaginal drugs, which were less successful; 5 of 17 infections (29.4%) were eradicated.

CONCLUSION: Metronidazole desensitization was effective in the management of women with nitroimidazole hypersensitivity.

Helms DJ, Mosure DJ, Secor WE, et al. Management of Trichomonas vaginalis in women with suspected metronidazole hypersensitivity. Am J Obstet Gynecol 2008;198:370.e1-370.e7.

Child Health

Breastfeeding Promotion: A Rational and Achievable Target for a Type 2 Diabetes Prevention Intervention in Native American Communities

ABSTRACT: Type 2 diabetes is a serious, costly, and increasingly common disease among Native American communities. Increasing evidence suggests that early infant nutrition, particularly breastfeeding, may have a significant impact on the development of diabetes in later life. In this report, the authors describe the scientific basis and development of an innovative program that targets promotion of breastfeeding among Native women as a type 2 diabetes prevention intervention. The program materials, evaluation methods, and outcomes are presented. By developing and sharing strategies that effectively support breastfeeding, the impact of diabetes in Native American communities will be reduced.

Murphy S, Wilson C, Breastfeeding promotion: a rational and achievable target for a type 2 diabetes prevention intervention in Native American communities. J Hum Lact. 24(2):193-198.

OB/GYN CCC Editorial comment:
Diabetes Prevention Intervention in Native American Communities

Breastfeeding represents a unique opportunity for diabetes prevention. This report comes from the front lines of Indian Health Service Breastfeeding Advocacy and Diabetes Care, Phoenix Indian Medical Center. In fact our own CCC Corner columnist Suzan Murphy is one of the authors, please give it a careful look.

Chronic Illness and Disease

Awareness of Stroke Warning Symptoms

Early recognition of the signs and symptoms of stroke and the need for victims or bystanders to immediately call 911 at the onset of symptoms is a matter of life and death. The five signs and symptoms of stroke include:

- Sudden numbness or weakness of the face, arms, or legs
- Sudden confusion or trouble speaking or understanding others
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, or loss of balance or coordination
- Sudden severe headache with no known cause

Although the number of deaths from stroke have declined since the 1960s, more than half (54 percent) of U.S. stroke deaths occur outside a hospital. A new CDC study revealed that less than half (44 percent) of people when asked about their awareness of the signs and symptoms of a stroke knew all five symptoms of a stroke, and only 38 percent of respondents knew to call 911 if they thought someone was having a stroke. This study, Disparities in Adult Awareness of Stroke Warning Signs and Symptoms, analyzed 2005 Behavior Risk Factor Surveillance Study data from 13 states and the District of Columbia found there was no improvement in the publics awareness of stroke symptoms since a similar study conducted in 2001.

Awareness of Stroke Warning Symptoms --- 13 States and the District of Columbia, 2005 MMWR, May 9, 2008 / 57(18);481-485.

Features

Gynecology

Clinical effects of the levonorgestrel-releasing intrauterine device in patients with adenomyosis

OBJECTIVE: The aim of this study was to evaluate the long-term clinical effects of a levonorgestrel-releasing intrauterine device (LNG-IUD) on adenomyosis.

CONCLUSION: For patients with clinical diagnosis of adenomyosis, the LNG-IUD is effective for the reduction of uterine volume with improvement of vascularity and relief of symptoms. However, the efficacy of LNG-IUD on uterine volume may begin to decrease 2 years after insertion.

Cho S, Nam A, Kim H, et al. Clinical effects of the levonorgestrel-releasing intrauterine device in patients with adenomyosis. Am J Obstet Gynecol 2008;198:373.e1-373.e7.

ACOG

American College of Obstetricians and Gynecologists

ACOG Practice Bulletin: Diagnosis and Management of Vulvar Skin Disorders

Summary of Recommendations:

The following recommendation is based on limited or inconsistent scientific evidence (Level B):

- The recommended treatment for lichen sclerosus is an ultrapotent topical corticosteroid, such as clobetasol propionate.

The following recommendations are based primarily on consensus and expert opinion (Level C):

- Biopsy of hyperpigmented or exophytic lesions, lesions with changes in vascular patterns, or unresolving lesions is particularly important and should be performed to rule out carcinoma.
- For patients with biopsy-confirmed Paget disease, further evaluation of the breast, genitourinary tract, and gastrointestinal tract should be undertaken.

ACOG Practice Bulletin No. 93: Diagnosis and Management of Vulvar Skin Disorders. Obstet Gynecol. 2008 May;111(5):1243-54.

ACOG Committee Opinion: Low Bone Mass (Osteopenia) and Fracture Risk

ABSTRACT: Diagnosis of low bone mass or osteopenia, defined by measures of bone mineral density (BMD), has generated much confusion. Because BMD alone is not sufficient to describe risk of fracture, clinicians face challenges in interpreting BMD and clinical risk factors, counseling patients on absolute risk of fracture, and determining the need for pharmacologic intervention. For fracture risk assessment, the most valuable risk factors appear to be BMD, age, prior fracture history, and risk of falling. Until better models of fracture risk exist, postmenopausal women in their 50s with T scores in the osteopenia range and without risk factors may well benefit from counseling on calcium and vitamin D intake and risk factor reduction to delay the initiation of pharmacologic intervention.

ACOG Committee Opinion No. 407: Low Bone Mass (Osteopenia) and Fracture Risk. Obstet Gynecol. 2008 May;111(5):1259-61.

Behavioral Health Insights

Peter Stuart, IHS Psychiatry Consultant

Cutters—Understanding Intentional Self-Injury

The guest editor is Dr. Robert Beasley, MD, Oklahoma Area Family Psychiatrist, Clinical Professor, University of Oklahoma Health Sciences and long-standing member of the IHS Suicide Prevention Committee.

The cutting of ones own skin seems a modern-day phenomenon although descriptions of a Spartan leader cutting his skin go back to the 5th century B.C. But no matter how ancient, it is still quite alarming to see those self-inflicted wounds marring the limbs or abdomen of anyone, especially a young adolescent. Parents, teachers, peers, and clinicians are often stunned and surprised and therefore reactive. Sorting this phenomenon out in a clinical setting is the task.

"Cutting" as it is popularly known (as well as "cutters") has been lumped with other behaviors as self-mutilation which as an older term has a rather harsh implication (as in a mutilated body) and dictionarily does not fit with "cutting off or destroying an essential part." Other terms less maiming such as self injury, non-suicidal self injury, and self-injurious behaviors are more in vogue.

Self cutting or repetitive skin cutting is the most common form of self injury (70% plus) and most people who self injure only do this once or a few times. Those who chronically self injure experience frequent urges and frequent attempts to resist them.

Like other understudied behaviors estimating prevalence is still a guess–like 4% in adults but adolescents report higher rates of self injury. In one study 46% of ninth and tenth graders reported a self-injurious behavior and 14% reported cutting behaviors. Rates are said to be much higher in mental health settings with 40% to 80% study rates in adolescent patients. Thus self-injurious behavior especially in adolescents and especially cutting should not be so surprising or seen as uncommon.

Self-injurious behavior also might be viewed as a developmental phenomenon as it arises in early adolescence. Girls are more prone to cutting while boys are more likely to be hitting things or burning themselves. No doubt puberty with its physical growth, hormonal change, and menstrual cycling sets the stage of this development. Ethnic differences have not been explored adequately but are said to be higher in Caucasians. No studies addressing native populations appear in the literature.

Before looking at psychological characteristics of people who self injure it is important to view this phenomenon through a spectrum in order to spread out the colors and shades and avoid reducing a symptom into a stereotype. Developmental and experienced vision helps. A 14-year-old who self injures may have much different dynamics than a 19-year-old or a 30-year-old. Also going back a decade or two ago the literature and the daily clinical practice connected self-injurious behavior to fairly serious characterlogic pathology usually ascribed to "the borderline personality." Perhaps this in part, was related to a population who were older, more symptomatic, and more difficult to treat.

As a medical student in the late 60's, I recall how the head of the surgery department was fascinated with the tattoos of prison inmates on the ward as if tattoos were confirmation of sociopathy. Certainly that is not the case today. So it is with cutting or other self-injurious behavior. The symptom does not make a diagnosis and the symptom has evolved and became more widespread and appears earlier with the fluxes of adolescent development.

However, there are some generally shared characteristics with the most common being negative emotionality, i.e. more frequent and more intense negative emotions. Also the ability to identify, express and regulate emotions is problematic. There is often a strong element of self-critical, self-derogatory, and self-punitive thought that fuels the negativity. These characteristics are a part of normal development that usually are managed by the maturation process but certainly reappear when one experiences depression.

It seems unclear what the role of past trauma has in self-injurious behavior. We have passed the time when we would automatically suspect child abuse especially sexual abuse in the background. There may be a relationship in some instances, but this is not the expected connection. Also, the relationship between self-injurious behavior and suicidal behavior does not consummate a marriage. They are two different phenomena but a clinician cannot afford to not assess the intent of the self-injurious behavior and evaluate any suicidality.

The obvious question of "why would one do that to oneself?" does have explanations, some clinical reasoned, some theoretical and some just guesses. Certainly many report that self injury stops (displaces) the intensity of the emotional storm and is seen as calming. It gives some control over intense emotional distress. There is also a sense of atonement from punishing oneself. In others who think they have lost the ability to feel, it confirms that they are not numb, not emotionally dead. It may also be tied to relationships, seeking the care or attention of others or bonding with someone who has self injured. It can have a protective function to keep one from suicidal ideation or actions. For some it may have a "daredevil" or thrill seeking manifest explanation and for others no explanation is pronounced – "I don't know why."

Clinical assessment therefore, should begin with the knowledge that self-injurious behavior is not uncommon especially in adolescence, that cutting is the predominant method, that the behavior is different phenomenologically from suicide and, that it serves a function. When first encountering a patient with a self injury, who is medically stabilized, analyzing one's own reaction to the self injury is very significant. Negative reactions such as shock, disgust, distancing, moral judging, fear, and especially anger, impede an evaluation and may impede treatment. They discourage a patient from getting help and may interfere with a referral process. A low-key dispassionate demeanor to self injury is the recommended path or as stated in the book, Skin Game: A Cutters Memoir by Kettlewell, one should approach self injury with "respectful curiosity." With this demeanor one can then begin to gather the history of self injury with the details of the recent self injury, the antecedents and the consequences and aftermath.

When evaluating adolescents, my own background in family systems generally leads me to include the parents or parenting system from the start and it puts the family in the focus as the unit of concern. Although this can be awkward and chaotic initially, much can be gained for therapeutic planning. Also the adolescent may feel some relief from the emotional burden of the behavior. The parents at the same time realize that they are a part of the treatment process.

Specific treatment is as diverse as there are therapists and depends on how the self-injurious behavior is conceptualized in the greater scheme of things. Certainly in this day of symptom-focused, pharmacologically driven insurer-capitalistic controlled, research-based best practice, an algorithm will be delivered to clear up this bloody problem. In the mean time, I would recommend a respectfully curious, non-judgmental family-based therapist who is a bit slow on the drug trigger.

In researching this article I recommend three authors. Armando Favazza has written extensively on the subject (even a book) and has traced the history. David Klonsky and Jennifer Muelenkamp have a good research review for the practioner and Barrent Walsh has an excellent article on clinical assessment.

Reference: Online

Effect of a pediatric practice-based smoking prevention and cessation intervention for adolescents: a randomized, controlled trial.

OBJECTIVE. The purpose of this work was to determine whether a pediatric practice-based smoking prevention and cessation intervention increases abstinence rates among adolescents.

CONCLUSIONS. A pediatric practice-based intervention delivered by pediatric providers and older peer counselors proved feasible and effective in discouraging the initiation of smoking among nonsmoking adolescents for 1 year and in increasing abstinence rates among smokers for 6 months.

Pbert L, et al. Effect of a pediatric practice-based smoking prevention and cessation intervention for adolescents: a randomized, controlled trial. Pediatrics. 2008 Apr;121(4):e738-47.

Breastfeeding

Suzan Murphy, PIMC

Supporting breastfeeding without money or a lot of time

Since obesity and its complications including type 2 diabetes have reached epidemic rates, health care planners are very eager for ways to reduce risk. At the moment, there are no promises of cure, but there are many different ways to reduce risk. Breastfeeding is one way.

But making breastfeeding work is not always easy. There are many distractions and barriers. Extra use of plastic nipples, pacifiers, and formula can slow down the lactation start up process. Painful latch, ineffective suck, jaundice, poor infant weight gain, engorgement, cracked and bleeding nipples, and well-meant-but-inaccurate-information can end the best intentions to breastfeed. Reassuring anxious dads, friends and relatives that "yes, the baby is getting enough and yes, the milk is good" can be overwhelming for new moms and challenging for providers. Managing breastfeeding, childcare, and work/school can be exhausting for new families. Keeping track of how breastfeeding support interventions are working can be time consuming and frustrating for health care planners and providers.

But—there is hope. Thanks to technology and the internet, there are more resources and reliable answers available than ever before. There are free materials available via Indian Health Service on-line resources like the MCH Breastfeeding page (www.ihs.gov/MedicalPrograms/MCH/M/bf.cfm). There are downloadable patient education materials (under Staff Resources), and a direct link to the amazing I.H.S. Diabetes Education on-line catalog (click on the Indian Health Service link by the picture of the pink/salmon Easy Guide to Breastfeeding) – TONS of free, helpful, culturally appropriate materials, including the Easy Guide (under pregnancy). The materials can be ordered on line and are shipped promptly and for free. A free NIH/I.H.S.video, "Close to the Heart: Breastfeeding our Children Honoring our Values" can be requested at 1-877-868-9473. The video is also part of a DVD that has other diabetes wellness/prevention stories – the DVD is 45 minutes long and looped so it can play over and over in the waiting room. Examples of other web pages that are especially helpful are the Centers for Disease Control (www.cdc.gov) – great for the latest on diseases/issues that impact lactation, American Academy of Pediatrics (www.aap.org) – helpful policies, DHHS/Office of Women's Health (www.4women.gov) – excellent resources for new moms, WIC (www.fns.usda.gov/wic/benefitsandservices/) - wonderful family friendly resources for breastfeeding, NIH Lactation and Medication search engine at http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT - quick, reliable, current research on maternal medication and breast milk.

Getting data? Electronic Health Records (E.H.R.) can make it easy. When a baby is seen, click on visit data (visit element tab), at Personal Health click on "To add, select", then from the pull down menu – select infant feeding, push "add" – and the big work is done. Feeding choice can be done at each visit. RPMS will track feeding choice by visit date. If it looks like last month's info disappeared, don't worry, it really didn't. The other variables – such as birth order, birth weight, mother's name, age of introduction of solids, and age of starting formula/stopping breastfeeding can be added at using the pull down menu and picking birth measurement. It is a short learning curve.

Need a report? CRS can report your progress of exclusively and mostly breastfeeding at predetermined ages. You can also do customized progress checks by using a vgen or qman search. For more details, please check with your IT or E.H.R. Department – or call us at 1-877-868-9473.

So, when you have a minute, see what you can do, then click on E.H.R and see what makes a difference.

Reference: Online

Domestic Violence

Denise Grenier, Tucson
Rachel Locker, Warm Springs

Keeping the Circle Strong: Celebrating Native Women's Health and Well-Being—2008 Conference

The National Indian Women's Health Resource Center will be hosting a two and a half day national conference in Albuquerque, NM June 9-11, 2008. Topics include Violence Against Native Women, HIV/AIDS, Diabetes, Cardiovascular Health, Advocacy for Elders, Spirituality and the Healing Process, Suicide Among Native Women, Methamphetamine Abuse Among the American Indian Population, Health Literacy, and Mentoring Native Youth.

For more information visit the "Keeping the Circle Strong: Celebrating Native Women's Health and Well-Being" 2008 conference registration website:
www.niwhrc.org/2008%20conference.htm

For more information about the National Indian Women's Health Resource Center visit: **www.niwhrc.org**

Medical Mystery Tour

A diabetic patient who is finally losing weight

A 21 yo G1 Po presents with persistent nausea and vomiting for 7 weeks. The patient was diagnosed with type 2 diabetes 4 years ago and has had fair control with and an oral hypoglycemic agent. She stopped her hypoglycemic when she learned she was pregnant. Her glucose has been well controlled with diet and exercise during her pregnancy. The patient has a history of migraine that often presents with concomitant nausea.

Exam reveals a 7 % loss from her pre-pregnancy body weight which she states was without trying to lose weight. Otherwise the patient's fundus is palpable 3 fingersbreath below her umbilicus.

Laboratory evaluation reveals no evidence of urinary tract infection, but she does have ketonuria.

Ultrasound confirms a single 16 week female fetus with normal amniotic fluid and a Grade I anterior fundal placenta.

A diabetic losing is a good thing, right?
Pregnancy is not an ideal time for weight loss. Significant weight loss should be confined to the preconception and postpartum periods. Ketosis is associated with a high fetal mortality rate. Ketonemia may have adverse developmental effects as well.

What do you think is happening?
How can you help this patient?
Morning sickness and hyperemesis gravidarum are terms used to describe mild versus severe nausea and vomiting induced by pregnancy.

Morning sickness—Some degree of nausea with or without vomiting occurs in 50 to 90 percent of all pregnancies. The mean onset of symptoms is at five to six weeks of gestation, peaking at nine weeks, and usually abating by 16 to 18 weeks of gestation; however, symptoms continue until the third trimester in 15 to 20 percent of gravida and until delivery in 5 percent. Although the lay term for mild pregnancy-related nausea and vomiting is "morning sickness," the symptoms may occur at any time of day and often (80 percent) persist throughout the day. Interestingly, women with mild nausea and vomiting during pregnancy experience fewer miscarriages and stillbirths than women without these symptoms. In one meta-analysis, the odds of miscarriage in women with nausea and vomiting in the first 20 weeks of pregnancy was OR 0.36 (95% CI 0.2-0.42).

Hyperemesis gravidarum—Hyperemesis gravidarum is considered the severe end of the spectrum of nausea and vomiting, although there is no clear demarcation between common pregnancy-related "morning sickness" and the infrequent pathologic disorder. An objective definition of hyperemesis that is often used is persistent vomiting accompanied by weight loss exceeding 5 percent of prepregnancy body weight and ketonuria unrelated to other causes. The incidence of woman with severe symptoms is not well-documented; reports vary from 0.3 to 2 percent. Ethnic differences and differences in the definition of the disease may account, in part, for this variability. Hyperemesis tends to improve in the last half of pregnancy, but may persist until delivery. If vomiting persists beyond a few days postpartum, other etiologies should be investigated.

The pathogenesis of hyperemesis is unknown.

Risk Factors—Studies of risk factors for hyperemesis gravidarum have generally included only a small number of affected women, and results have not been definitive. Nonpregnant women who experience nausea and vomiting after estrogen exposure, from motion sickness, with migraine, or with exposure to certain tastes (supertasters) are more likely to have pregnancy-related nausea and vomiting. In contrast, anosmic women appear to be at low risk for this disorder. Psychiatric illness and pregestational diabetes are other purported risk factors, but these are controversial. Interestingly, studies have consistently shown a preponderance of female fetuses among pregnancies complicated by hyperemesis. Advanced maternal age (age >35) and cigarette smoking (perhaps due to the effect of nicotine) appear to be protective.

Clinical Course—Hyperemesis gravidarum is a clinical diagnosis, without uniform criteria. As discussed above, the diagnosis can be made in a woman with persistent vomiting, weight loss exceeding 5 percent of prepregnancy body weight, and ketonuria beginning in the first trimester, after other causes have been excluded. The onset of symptoms is typically at 4 to 10 weeks of gestation. Hospitalization rates peak at about nine weeks, then fall, plateauing at around 20 weeks of gestation. Abdominal pain is infrequent.

Laboratory abnormalities—Laboratory abnormalities may or may not be present:

- Electrolyte derangements, such as hypokalemia and metabolic alkalosis.
- An increase in hematocrit, indicating hemoconcentration due to plasma volume depletion. The degree of hemoconcentration may be underestimated unless the physiologic decline in hematocrit seen in normal pregnancies is considered.
- Abnormal liver enzyme values occur in approximately 50 percent of patients who are hospitalized with hyperemesis. The most striking abnormality is an increase in serum aminotransferases. Alanine aminotransferase (ALT) is typically elevated to a greater degree than aspartate aminotransferase (AST). Values for both are typically only mildly elevated, eg in the low hundreds, and rarely as high as 1000 U/L. Hyperbilirubinemia also can occur, but rarely exceeds 4 mg/dL. Serum amylase and lipase may increase as much as five-fold (as opposed to a 5 to 10-fold increase in acute pancreatitis) and are of salivary rather than pancreatic origin. The degree of abnormality in liver tests correlates with the vomiting; the highest elevations are seen in patients with the most severe or protracted vomiting. Abnormal liver biochemical tests resolve promptly upon resolution of the vomiting.
- Mild hyperthyroidism, possibly due to high serum concentrations of human chorionic gonadotropin which has thyroid-stimulating activity. One report noted low serum TSH concentrations more often in women with hyperemesis gravidarum than in normal pregnant women; TSH was suppressed in 60 percent of hyperemesis patients versus 9 percent of controls. Some of these women had elevated serum free T4 concentrations and therefore met the definition of hyperthyroidism.

Features that distinguish the transient hyperthyroidism of hyperemesis gravidarum from hyperthyroidism of other causes (which in a pregnant woman is most likely to be due to Graves' disease) are the vomiting, absence of goiter and ophthalmopathy, and absence of the common symptoms and signs of hyperthyroidism (heat intolerance, muscle weakness, tremor). In addition, serum free T_4 concentrations are only minimally elevated and serum T_3 concentrations are not elevated in women with hyperemesis gravidarum, whereas both are usually unequivocally elevated in pregnant women with true hyperthyroidism. Treatment of hyperthyroidism should not be undertaken without

clear evidence of a primary thyroid disorder (eg, goiter, elevated free thyroid hormone or elevated TSH receptor antibody levels).

- Hypercalcemia due to hyperparathyroidism. This is uncommon, but should be considered as hypercalcemia may contribute to the vomiting.

Diagnostic Evaluation—The standard initial evaluation of pregnant women with persistent vomiting includes measurement of weight, orthostatic blood pressures, serum free T4 concentration, serum electrolytes, and urine ketones. An ultrasound examination is performed to exclude gestational trophoblastic disease and multiple gestation, both of which are associated with hyperemesis.

Given the characteristic clinical manifestations of hyperemesis gravidarum, a liver biopsy is not needed in women with abnormal liver function tests to exclude other causes for the laboratory findings. When a liver biopsy has been performed, it was either normal or showed nonspecific findings. Inflammation was absent, but necrosis with cell drop out, steatosis centrilobular vacuolization, and rare bile plugs have been seen. These changes help to explain the mechanism for the liver test abnormalities.

What are some of the treatment options for this patient?

If conservative measures are successful, does a PICC line facilitate treatment of hyperemesis gravidarum?

See next month's Medical Mystery Tour for the answers

International Health Update

Claire Wendland, Madison, WI

Fistulas and Ethics

When the tissues between a woman's bladder (or rectum or urethra) and vagina erode as a result of labor complications, she is said to have obstetric fistula disease. Fistulas are very rare in the wealthy world, and when they do occur, are usually a result of cancer surgery or radiation therapy. In the Third World, they are all too common. One often-cited estimate is that two million women worldwide suffer from obstetric fistula, the majority of these in Africa. Women are at risk when they have limited access to good-quality emergency obstetric care, when they are poor, when they are malnourished or of short stature (sometimes associated with teen parenthood, usually associated with chronic malnutrition), or when gender inequalities mean they do not have permission or funds to get help in labor. All of these increase the risk of obstructed labor, in which prolonged pressure from the fetal head against maternal soft tissues sets the stage for fistula – and nearly always for a stillbirth as well. (Female genital mutilation is often cited as leading to fistula too, but while FGM is a matter for serious concern, the data suggests it does not significantly contribute either to obstructed labor or to obstetric fistula.) It's a socially devastating disorder. Leaking urine or stool or both, women usually are separated from their husbands, often divorced, sometimes considered ritually impure, and sometimes driven out of their communities.

Two articles this month provide hope and caution about obstetric fistula. Wairagala Wakabi updates us on Ethiopia's efforts to reduce and treat the problem. Ethiopia probably has the world's best treatment system. Addis Ababa Fistula Hospital, dedicated to this single problem, has been functioning now for over thirty years. With surgeons at work there and in three new branches of the hospital, over 1000 patients are having repairs yearly. But public health officials estimate that for every operated case, nine new cases of fistula appear, many in rural areas where women cannot hope to access treatment. The Ethiopian government, collaborating with transnational funders, is moving more aggressively toward prevention. The focus is improving emergency obstetric care, increasing numbers of midwives trained to ensure that women have the chance to have births attended by someone skilled, and encouraging labor attendants to use the partograph. (Partographs are simple tools used to assess normal and problem labor – if you haven't seen one, look at http://www.who.int/reproductive-health/impac/Clinical_Principles/figureC10.html.)

Lewis Wall, writing with coauthors including I.H.S. veteran Jeff Wilkinson, adds a note of caution. The plight of women with fistulas is so terrible that many first-world surgeons and gynecologists have done short-term surgery missions to try to address the backlog of untreated cases. Wall and colleagues worry about the ethics of these missions, which may fall short in postoperative care, in treatment of the associated psychosocial problems, and even in the training and operative techniques of the doctors involved. They argue for a code of ethics that puts the best interests of the patient at heart, embeds surgery in programs that treat the whole patient, and – probably most controversially – commits physicians who engage in such missions to work for social justice and the eradication of the inequalities that lead to fistulas in the first place. It's food for thought.

Wakabi W. Ethiopia steps up fight against fistula. Lancet 371:1493-4, 2008

Wall LL et al. A Code of Ethics for the fistula surgeon. Int J Gyn Obs 101(1):84-7 2008

Midwives Corner

Lisa Allee, CNM,
4 Corners Regional Health Center, Red Mesa, AZ

Midwives Gathering: Historical, Momentous, and Amazing

Wow, wow, wow! The Invitational Gathering on North American Indigenous Birthing and Midwifery happened this past week, May 5-8, in Rockville, MD at IHS headquarters and the ripple effects of this gathering are going to fan out in an ever widening wave that is going to rock our world! Aspects of various movements—women reclaiming birth, midwifery, honoring of elders, awakening to remember and honor ancient ways, rising up of indigenous peoples—that have been going on for years intersected at this gathering and the energy of this merging is going to move us onwards at an ever increasing pace. There were representatives from Canada, the US, and Mexico. There were two of the Grandmothers from The International Council of Thirteen Indigenous Grandmothers (www.grandmotherscouncil.com). There were icons of midwifery and natural birthing—Ina May Gaskin and Robbie Davis-Floyd. There were representatives of the variety of routes to midwifery in all three countries—apprentice, midwifery school, and nurse midwifery. There were policy makers, researchers, educators and advocates. The group was dynamic, enthusiastic, and strong. The message was loud and clear: midwifery is an essential and integral part of quality health care and increasing the number of indigenous midwives and the number of midwives with knowledge of indigenous midwifery will serve to take that quality higher and higher. Here are some tidbits from the gathering:

Where we are now:

- Canada: Federal Government gives open, explicit support to midwifery being an integral part of health care. Not all provinces have legislation for midwifery yet. There are several indigenous midwifery training programs that effectively combine ancient knowing and modernity. There is great acceptance of a variety of birth settings and midwives have to demonstrate competence in all of them—home, birth centre, and hospital. There has been a realization that the policy of "evacuation" of northern pregnant women to southern cities has been detrimental to women, babies, families and communities. Some northern communities have or are beginning to reclaim birth.
- Mexico: The Ministry of Health has begun to realize the value of the indigenous midwives of Mexico and has begun a program of certification. There have been educational exchanges between indigenous midwives and obstetricians/ministry of health personnel and a program focusing on the value of birthing in vertical positions. This has been called the intercultural model.
- US: The number of midwives and midwife-attended births continue to steadily grow. Midwives are integral to IHS in most areas, but not all. There are a variety of routes to becoming a midwife in this country from no degree to a PhD and many midwifery training programs, but none that have indigenous midwifery as an integral part of the curriculum, yet.

Ideas for the future:

- Canada: Continue and expand the work of "Bringing Birth Closer to Home" so northern women can return to birthing closer to family and community. Create more indigenous midwifery training programs. Midwifery legislation for every province and addressing indigenous midwifery effectively in that legislation.
- Mexico: Continue the process of recognizing indigenous midwives and moving towards supporting them financially. Continue to spread the intercultural model and the humanization of health care during pregnancy, birth and postpartum.
- US: Expand the types of midwives employed by IHS to include CMs, CPMs, and other direct-entry prepared midwives. Then Native women and men interested in becoming midwives would have the option of all the routes to midwifery and be assured of employment as midwives in their communities. This will make midwifery education and practice more accessible to more Native people both as midwives and as patients. Start "grow your own" indigenous midwifery training programs in various areas that would gestate midwives in the traditional midwifery paradigms of the people of that area combined with the current art and science of midwifery. Expand the birth setting options provided by IHS to include birth centers and home—these settings have been shown to be as safe as and have advantages over hospital and Native Americans deserve to have the birth setting options available to the rest of the US population.

Collaborative ideas between the countries of North America:

- Professional and educational exchanges.
- Development of a common minimum data set to collect data regarding indigenous midwifery and birthing, May be based on the Optimality Index.

Treatment of vulvar intraepithelial neoplasia with topical imiquimod

BACKGROUND: Alternatives to surgery are needed for the treatment of vulvar intraepithelial neoplasia. We investigated the effectiveness of imiquimod 5% cream, a topical immune-response modulator, for the treatment of this condition.

CONCLUSIONS: Imiquimod is effective in the treatment of vulvar intraepithelial neoplasia.

van Seters M, et al, Treatment of vulvar intraepithelial neoplasia with topical imiquimod. N Engl J Med. 2008 Apr 3;358(14):1465-73.

- Continuing the wonderfully effective networking that was begun this week.
- Support, help, and encourage each other to provide exceptional midwifery care to indigenous women and families, spread the wisdom and knowing of indigenous midwifery and increase the numbers of indigenous midwives.

Some impressive numbers:

- 90% of midwife attended births in Quebec are out of hospital.
- There are 24 US states with direct entry midwifery legislation already and 11 are working on it this year.
- The CPM (certified professional midwife) study showed 92% of the births were at home or in a birth center, there was an 8% transfer rate and only 2% were emergencies, planned home births had no added risk.
- At Six Nations Birthing Centre (Canada) they have a medicine person on staff who sees 90% of the patients.
- The Farm Midwifery Center (US) had a 0.5% C-section rate in the first 400 births and their current rate is 2%. Breastfeeding initiation is 99% and 98% at 6 months.
- Nunavik Birth Centre (northern Canada) has had a 1.3% c-section rate for the last 5-6 years and no maternal deaths.

A few of the many pearls spoken at the gathering:

- Nothing comes to you for no reason. Whatever you do, do your best.
- Take out the boundaries between our countries they weren't there to begin with.
- Pregnancy is not an illness.
- Midwives are normal childbirth experts and facilitate normal birth.
- We must be ourselves wherever we go.
- Train the youth—train the future grandmothers, train the future midwives.
- Be aware of colonization mentality—it affects us all and can be very subtle and so ingrained that it is easy to miss….if we doubt and mistrust each other we can never come together.

For further information about this conference, please contact judith.thierry@ihs.gov

Perinatology Picks

Body mass index and weight gain prior to pregnancy and risk of gestational diabetes mellitus

OBJECTIVE: The objective of the study was to evaluate obesity and rate of weight change during the 5 years before pregnancy and risk of gestational diabetes mellitus (GDM) in a nested case-control study.

STUDY DESIGN: GDM cases (n = 251) and controls (n = 204) were selected from a multiethnic cohort of 14,235 women who delivered a live birth between 1996 and 1998. Women who gained or lost weight were compared with those with a stable weight (± 1.0 kg/year).

RESULTS: Women who gained weight at a rate of 1.1 to 2.2 kg/year had a small increased risk of GDM (odds ratio [OR] 1.63 [95% confidence interval (CI) 0.95 to 2.81]) and women who gained weight at a rate of 2.3 to 10.0 kg/year had a 2.5-fold increased risk of GDM (OR 2.61 [95% CI, 1.50 to 4.57]), compared with women with stable weight (after adjusting for age, race-ethnicity, parity, and baseline body mass index).

CONCLUSION: Weight gain in the 5 years before pregnancy may increase the risk of GDM.

Hedderson MM, Williams MA, Holt VL, et al. Body mass index and weight gain prior to pregnancy and risk of gestational diabetes mellitus. Am J Obstet Gynecol 2008;198:409.e1-409.e7.

Gabapentin for the treatment of menopausal hot flashes: a randomized controlled trial

OBJECTIVE: To compare the effectiveness and tolerability of gabapentin with placebo for the treatment of hot flashes in women who enter menopause naturally.

CONCLUSION: Gabapentin at 900 mg/day is an effective and well-tolerated treatment for hot flashes.

Butt DA et al. Gabapentin for the treatment of menopausal hot flashes: a randomized controlled trial, Menopause. 15(2):310-318, March/April 2008.

STD Corner

Lori de Ravello, National IHS STD Program

Adolescent Sexual Risk: Factors Predicting Condom Use Across the Stages of Change

This study examined factors associated with high-risk adolescents' movement toward or away from adopting consistent condom use behavior using the Transtheoretical Model Stages of Change. Participants drawn from the inactive comparison condition of a randomized HIV prevention trial (Project SHIELD) responded to items assessing pros and cons of condom use, peer norms, condom communication, and perceived invulnerability to HIV. Participants were categorized based on their condom use behavior using the Transtheoretical Model. Multiple logistic regressions found that progression to consistent condom use was predicted by continuing to perceive more advantages to condom use, reporting greater condom use communication with partners, and less perceived invulnerability to HIV. Movement away from adopting consistent condom use was predicted by a decrease in perceived advantages to condom use, increased perceived condom disadvantages, and fewer condom discussions. Future interventions may be tailored to enhance these factors that were found to change over time.

Grossman C, et al., Adolescent Sexual Risk: Factors Predicting Condom Use Across the Stages of Change, AIDS Behav. 2008 Apr 22

Alaska State Diabetes Program

Barbara Stillwater

Trends in the prevalence of preexisting diabetes and gestational diabetes mellitus among a racially/ethnically diverse population of pregnant women, 1999-2005

OBJECTIVE: The purpose of this study was to assess changes in the prevalence of preexisting diabetes (diabetes antedating pregnancy) and gestational diabetes mellitus (GDM) from 1999 through 2005.

RESULTS: Preexisting diabetes was identified in 2,784 (1.3%) of all pregnancies, rising from an age- and race/ethnicity-adjusted prevalence of 0.81 per 100 in 1999 to 1.82 per 100 in 2005 (P(trend) < 0.001). Significant increases were observed in all age-groups and all racial/ethnic groups. After women with preexisting diabetes were excluded, GDM was identified in 15,121 (7.6%) of 199,298 screened pregnancies. The age- and race/ethnicity-adjusted GDM prevalence remained constant at 7.5 per 100 in 1999 to 7.4 per 100 in 2005 (P(trend) = 0.07). Among all deliveries to women with either form of diabetes, 10% were due to preexisting diabetes in 1999, rising to 21% in 2005, with GDM accounting for the remainder.

CONCLUSIONS: The stable prevalence of GDM and increase in the prevalence of preexisting diabetes were independent of changes in the age and race/ethnicity of the population. The increase in preexisting diabetes, particularly among younger women early in their reproductive years, is of concern.

Lawrence JM, Contreras R, Chen W, Sacks DA, Trends in the prevalence of preexisting diabetes and gestational diabetes mellitus among a racially/ethnically diverse population of pregnant women, 1999-2005, Diabetes Care. 2008 May;31(5):899-904.

Availability of Cefixime 400 mg Tablets— United States, April 2008

Availability of cefixime (for the treatment of N. gonorrhoeae infections) had been limited since July 2002, when Wyeth Pharmaceuticals (Collegeville, Pennsylvania) discontinued manufacturing cefixime tablets in the United States. Beginning in April 2008, cefixime (Suprax®) 400 mg tablets are again available in the United States.

Information on obtaining cefixime is available from Lupin by telephone (866-587-4617). Guidance on treatment of N. gonorrhoeae infections and updates on the availability of recommended antimicrobials are available from CDC at **www.cdc.gov/std/treatment**

Save the dates

Sexual Assault Nurse Examiner (SANE) Training Course

- June 9–13, 2008
- Navajo Nation Museum, Window Rock, AZ
- 40 hour didactic portion of SANE/SAFE training
- Contact:
  Sandra Dodge **Sandra.dodge@ihs.gov**

Sexual Assault Nurse Examiner/Forensic Examiner (SANE/SAFE) Training Course

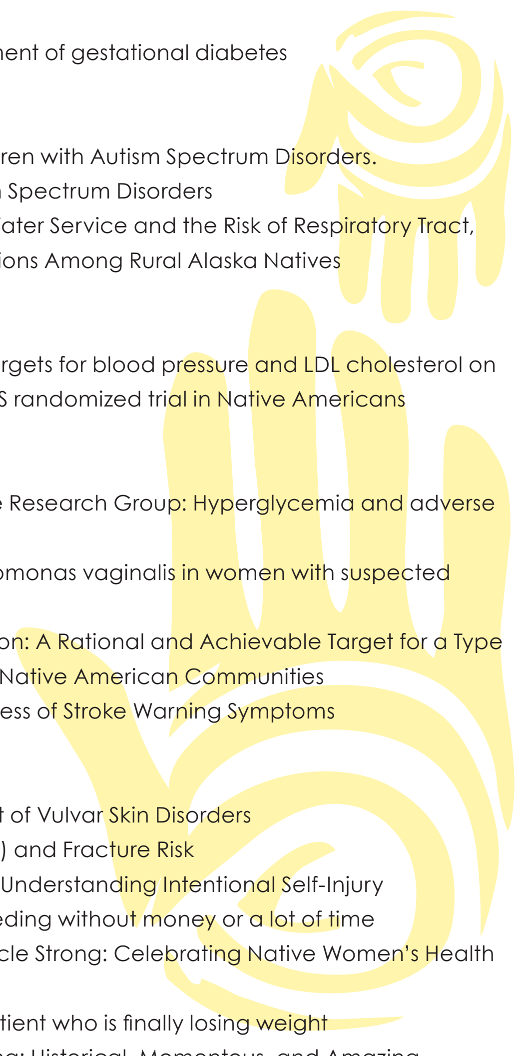
- July 21-25, 2008
- Aberdeen, South Dakota
- 40 hour didactic portion of SANE/SAFE training
- For additional information contact Lisa Palucci, **lisa.palucci@ihs.gov**, at the IHS Clinical Support Center

Sexual Assault Nurse Examiner/Forensic Examiner (SANE/SAFE) Training Course

- August 18-22, 2008
- Oklahoma City, Oklahoma
- 40 hour didactic portion of SANE/SAFE training
- For additional information contact Lisa Palucci, **lisa.palucci@ihs.gov**, at the IHS Clinical Support Center

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

- September 14–18, 2008
- Salt Lake City, Utah
- Contact **YMalloy@acog.org**
  or call Yvonne Malloy at 202-863-2580



Abstract of the Month

- Metformin versus Insulin for the treatment of gestational diabetes

IHS Child Health Notes

- Identification and Evaluation of Children with Autism Spectrum Disorders.
- Management of Children with Autism Spectrum Disorders
- The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives

From Your Colleagues

- Chuck North, HQE—Effect of lower targets for blood pressure and LDL cholesterol on atherosclerosis in diabetes: the SANDS randomized trial in Native Americans

Hot Topics

- Obstetrics—HAPO Study Cooperative Research Group: Hyperglycemia and adverse pregnancy outcomes
- Gynecology—Management of Trichomonas vaginalis in women with suspected metronidazole hypersensitivity
- Child Health—Breastfeeding Promotion: A Rational and Achievable Target for a Type 2 Diabetes Prevention Intervention in Native American Communities
- Chronic Illness and Disease—Awareness of Stroke Warning Symptoms

Features

- ACOG—Diagnosis and Management of Vulvar Skin Disorders
- ACOG—Low Bone Mass (Osteopenia) and Fracture Risk
- Behavioral Health Insights—Cutters—Understanding Intentional Self-Injury
- Breastfeeding—Supporting breastfeeding without money or a lot of time
- Domestic Violence—Keeping the Circle Strong: Celebrating Native Women's Health and Well-Being—2008 Conference
- Medical Mystery Tour—A diabetic patient who is finally losing weight
- Midwives Corner—Midwives Gathering: Historical, Momentous, and Amazing
- Perinatology Picks—Body mass index and weight gain prior to pregnancy and risk of gestational diabetes mellitus
- STD Corner—Factors Predicting Condom Use Across the Stages of Change

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