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Financial Disclosure: *OB/GYN Clinical Alert's* editor, Jeffrey T. Jensen, MD, MPH, is a consultant for and on the Advisory Boards of Abbvie, Agile Pharmaceuticals, Bayer, ContraMed, Evofem, HRA Pharma, Merck, and Teva; and receives grant/research support from Abbvie, Bayer, Evofem, and HRA Pharma. Peer reviewer Catherine Leclair, MD; executive editor Leslie Coplin, and managing editor Neill Kimball report no financial relationships relevant to this field of study.

Breastfeeding in 2014: Has the Pendulum Swung Too Far?

ABSTRACT & COMMENTARY

By *Rebecca H. Allen, MD, MPH*

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Dr. Allen reports no financial relationships relevant to this field of study.

Synopsis: *This review outlines steps that OB/GYNs can take to support their patients who desire to breastfeed. Certain interventions — such as skin-to-skin care at birth, rooming-in for mother and infant postpartum, and avoiding formula feeding — are beneficial for initiating breastfeeding. OB/GYNs can also help women maintain breastfeeding after they leave the hospital by managing the perception of low milk supply and any complications.*

Source: Stuebe AM. Enabling women to achieve their breastfeeding goals. *Obstet Gynecol* 2014;123:643-652.

THIS IS A REVIEW OF BREASTFEEDING AND HOW OBSTETRICIAN-GYNECOLOGISTS can support women who desire to breastfeed at different stages: antepartum, intrapartum, and postpartum. Breastfeeding exclusively to 6 months of infant life is recommended by most major medical organizations, and the American Academy of Pediatrics encourages breastfeeding to at least 1 year. The author recommends asking an open-ended question, “What have you heard about breastfeeding?” Ideally, this is asked early in pregnancy, given that most women have already decided then how to feed their infant. Intrapartum care is one of the most important pieces to facilitate breastfeeding initiation. A na-

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VOLUME 31 • NUMBER 1 • MAY 2014 • PAGES I-8

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tional program, “The Baby-Friendly Hospital Initiative” is helping hospitals implement 10 practices that promote breastfeeding. A few key interventions are skin-to-skin care and breastfeeding within 1 hour at birth, both for vaginal delivery and cesarean delivery patients; no pacifiers, except for analgesic benefit during circumcision or other procedures; and having mothers and infants room together postpartum. In essence, the newborn nursery should be empty except for the few infants who need extra observation. Other steps include having a written supportive breastfeeding policy for the hospital, training health care staff in the skills necessary to help women breastfeed (including providers and nurses), giving breastfeeding newborns only breast milk (unless medically indicated), teaching women how to breastfeed, and referring women to community support services postpartum. Not surprisingly, the “unmedicated spontaneous vaginal birth” is associated with the best breastfeeding outcomes, since cesarean delivery, epidural anesthesia, and parenteral narcotics have been associated with delayed lactogenesis and breastfeeding difficulties.

Postpartum, the author of this published article has a negative view on the effects of hormonal contraception on breastfeeding and recommends that women use the lactational amenorrhea method of contraception if they succeed at exclusively breastfeeding. At postpartum visits, this author suggests that OB/GYNs can assess breastfeeding by reviewing milk letdown, infant latch, and the frequency of feeds. Collaborating with the infant’s pediatrician and an International Board Certified Lactation

Consultant is recommended for any difficulties. Given that postpartum depression and anxiety can impact breastfeeding, the author recommends that providers screen for these issues and use the selective serotonin reuptake inhibitor, sertraline, if needed for therapy, since it is safe with breastfeeding. The perception of low milk supply is often a cause of premature weaning, so it can be helpful to educate the patient and her family that feeding every 1-2 hours is normal for infants. There is no good evidence that galactagogues are safe and facilitate milk supply.

■ COMMENTARY

The rate of breastfeeding initiation over time in the United States has fluctuated from 70% in the early 1900s, to 22% in the 1970s, and back up to 77% in 2010. In 2013, the proportion of women with any breastfeeding compared to exclusive breastfeeding at 6 months was 49% and 16.4%, respectively.¹ There is no doubt that breastfeeding is beneficial in many ways to the health and well being of mothers and infants, as well as providing an environmentally friendly and “free” food for infants. However, whether breastfeeding is **causally** related to the many health benefits its supporters claim, is still up for debate, even though it may be heresy to say so.² After all, there are not likely to be many randomized, controlled trials on the subject and observational epidemiology has its limitations, especially confounding factors. As Colen et al note, “Compared to bottle-fed infants, breastfed infants are significantly more likely to be white, be born into families with above average incomes, have parents with advanced educational attainment, maintain easier access to health care services, and live in safer neighborhoods with lower levels of environmental toxins.”² It is difficult to isolate the effect of breastfeeding given these circumstances. Nevertheless, increasing breastfeeding rates has become a national policy goal, and hospitals and providers can play a part, as this article reviews. I have firsthand knowledge of the The Baby-Friendly Hospital Initiative as my hospital is currently undergoing the process to become Baby-Friendly Certified.³ I sometimes wonder if that means we were “Baby-Unfriendly” before!

This article outlines certain practices that providers and hospitals can take to encourage breastfeeding. This is certainly admirable and we should support mothers who want to breastfeed, but what about those who do not or cannot? I feel that the pendulum toward breastfeeding and against formula has swung so far that women now feel guilty and like a failure if they cannot exclusively breastfeed their infants or have difficulties establishing a milk supply. After all, as Colen et al point out, “Total commitment to 6 months of exclusive breastfeeding is a very high expectation of mothers, especially in an era when a majority of women work outside the home, often in jobs with little flexibility and limited maternity leave, and in

OB/GYN Clinical Alert, ISSN 0743-8354, is published monthly by AHC Media LLC, One Atlanta Plaza, 950 East Paces Ferry Road NE, Suite 2850, Atlanta, GA 30326.

EXECUTIVE EDITOR: Leslie G. Coplin
MANAGING EDITOR: Neill L. Kimball
EDITORIAL DIRECTOR: Lee Landenberger
GST Registration Number: R128870672.

Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: SEND ADDRESS CHANGES TO OB/GYN Clinical Alert, P.O. Box 550669, ATLANTA, GA 30355.

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 Print: 1 year with free AMA Category 1 credits: \$349
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Questions & Comments

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a country that offers few family policies to support newborns or their mothers.”²

Some of the intrapartum and postpartum steps to obtain Baby-Friendly Hospital status and support breastfeeding initiation make perfect sense. For example, skin-to-skin care and letting the infant latch within an hour after birth is great bonding for the mother and child. In addition, women who have to be separated from their infant (e.g., due to prematurity) can be taught how to pump milk to establish their milk supply. The rooming-in idea stems from the fact that infants normally feed every 1-2 hours so the infant needs to be in the same postpartum room as the mother, not down the hall in the nursery. For most women and families, this is manageable and our patients are now advised antepartum what to expect about rooming in during their hospital stay. Some hospitals have even closed their newborn nurseries! Nevertheless, the obstetrician in me, being very protective of my patients, feels that women who have been through arduous labors or cesarean deliveries with complications, need to be able to rest and heal. They may not have a willing partner who can take care of the infant in their hospital room while they sleep. In these situations, I think the postpartum nurses, can and should, take care of the infant. I have been told that the goal is 80% rooming-in for Baby Friendly Hospital status and that exceptions can be made. My larger issue with the Baby Friendly Hospital designation is that while it may help initiate breastfeeding, maintenance is another matter entirely. Once the patient goes home, unless they can afford or have insurance coverage for lactation consultants, they are often on their own, figuring out how to maintain breastfeeding. Certainly, unpaid maternity leave and having to go back to work 4 or 6 weeks postpartum does not help. I feel that until we, as a society, begin to value women and infants by providing paid maternity and paternity leaves, our national breastfeeding goal will go unfulfilled. While the Affordable Care Act now covers lactation counseling and costs for renting breastfeeding equipment, that does not solve other societal barriers.⁴ For my patients who are having difficulty breastfeeding, I certainly refer them to lactation consultants and support them, but I also validate how difficult it can be and reassure them that they are not bad mothers if they cannot continue.

Finally, I would challenge the author of this review on the effect of hormonal contraception on breastfeeding. I agree that we don't have enough data to say that progestin-only methods absolutely do not affect breastfeeding initiation or maintenance when given less than 6 weeks postpartum. But at the same time, as a physiologic process, so many factors affect breastfeeding (mode of delivery, medications, stress, anatomy, the infant, etc.) that isolating hormonal contraception as the main culprit seems dubious. This is especially important in populations with high unintended and repeat pregnancy rates.

These women and their current children might be better served by highly effective contraception and less breastfeeding than having another child within 1 year of their delivery. For many women, the idea that they will be able to breastfeed exclusively and use lactational amenorrhea for contraception is a fantasy. We often administer depot medroxyprogesterone acetate or the etonogestrel implant to our patients before they are discharged postpartum so that they can be protected against rapid repeat pregnancy, and this is supported by the United States Medical Eligibility Criteria for Contraceptive Use.⁵ ■

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Does Antibiotic Prophylaxis Prevent Postoperative UTIs in Patients Requiring Short-term Catheterization?

ABSTRACT & COMMENTARY

By Chiara Ghetti, MD

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Dr. Ghetti reports no financial relationships relevant to this field of study.

Synopsis: After pelvic floor reconstructive surgery, antibiotic prophylaxis with daily nitrofurantoin during postoperative catheterization does not decrease risk of urinary tract infection.

Source: Dieter AA, et al. Oral antibiotics to prevent postoperative urinary tract infection: A randomized controlled trial. *Obstet Gynecol* 2014;123:96-103.

CATHETER-RELATED URINARY TRACT INFECTIONS (UTI) ARE the most frequent hospital-acquired infections. The estimated risk of UTI following pelvic reconstructive sur-

gery is 5-35%.¹ This study attempted to answer the question of whether antibiotics effectively decrease the risk of UTI in patients requiring catheter drainage following reconstructive surgery.

This was a randomized, double-blind, placebo-controlled trial of patients undergoing surgery for pelvic organ prolapse and/or incontinence requiring postoperative catheterization. The primary outcome was defined as treatment for UTI within 3 weeks of surgery. English-speaking, non-pregnant patients age ≥ 21 years having surgery for pelvic floor disorders were enrolled. Patients undergoing surgery for urethral diverticulum, fistula repair, or sacral modulation or who had an intraoperative urinary tract injury were excluded. Women with an allergy to nitrofurantoin, creatinine clearance < 60 mL/min, or preoperative urinary retention requiring catheterization also were excluded. Subjects requiring postoperative catheterization were randomized to receive daily nitrofurantoin prophylaxis vs placebo for 7 days starting on postoperative day 1. These included all subjects hospitalized postoperatively with Foley catheter drainage as well as all subjects discharged on day of surgery with Foley catheter or performing clean intermittent self-catheterization. All subjects received guideline-recommended perioperative antibiotic prophylaxis prior to the start of surgery. Treatment for UTI was defined as treatment for either clinically suspected or culture-proven infection. Multiple methods (including query of medical record, postoperative visits, and completion of forms by outside facilities) were used to determine whether UTI treatment had occurred in the 3 weeks following surgery. Sample size calculation estimated that 156 participants were necessary to demonstrate a two-thirds reduction in risk of UTI.

The study enrolled 375 subjects, of which 163 were randomized. Four randomized subjects were excluded from final analysis for protocol deviations. Final analysis included 159 subjects, 81 in the nitrofurantoin treatment group and 78 in the placebo group. Baseline and perioperative characteristics were not different between groups. Groups were also not different in duration or type of catheter use after surgery.

The risk of UTI in the 3 weeks following surgery was 18% in all subjects (28/159). The risk was not different between nitrofurantoin (22%) vs placebo groups (13%) (relative risk 1.73; 95% confidence interval [CI], 0.85-3.52; $P = 0.12$). Of those treated, 68% were treated for a culture-proven UTI and 32% were treated empirically for a clinically suspected UTI. Using regression analysis, there was no difference in risk of UTI when controlling for menopausal status, diabetes, preoperative post-void residual, creatinine clearance, hysterectomy, and duration of catheterization. The authors conclude that nitrofurantoin prophylaxis for each day of catheterization does not reduce UTI risk in patients undergoing reconstructive pelvic

surgery requiring short-term transurethral catheterization.

■ COMMENTARY

UTIs account for 40% of hospital-acquired infections and the majority (80%) of these are associated with the use of indwelling catheters.² Catheter-associated urinary tract infections (CAUTI) can be associated with increased morbidity and mortality, increased hospitalization, as well as increased health care costs. CAUTI have received increased attention in recent years with the publication of numerous guideline documents and adoption of quality measures. In 2009, as part of National Hospital Inpatient Quality Measures, removal of catheter on postoperative day 1 or 2 was added as a Surgical Care Improvement Project (SCIP) measure to improve surgical care by reducing surgical complications. In 2012, the Joint Commission published a new National Patient Safety Goal specific to CAUTI based on the Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals and the CDC Guideline for Prevention of Catheter-associated Urinary Tract Infections.^{3,4} In January 2013, there was full implementation of CAUTI surveillance of evidence-based practices to prevent indwelling CAUTI.

The main tenets employed to reduce CAUTI are to avoid unnecessary catheterization and to limit duration of catheterization.⁵ Due to antibiotic side effects and risk of antimicrobial resistance, the role of prophylactic antibiotics has been debated. The 2013 Cochrane review concluded that there is limited evidence suggesting that receiving prophylactic antibiotics reduces the rate of bacteriuria and other signs of infection in surgical patients who undergo bladder drainage for at least 24 hours postoperatively. This randomized, double-blind, placebo-controlled study found that nitrofurantoin prophylaxis during time of catheterization following reconstructive surgery did not reduce the risk of UTI. While this well-designed study adds important information regarding this clinical dilemma, what remains unanswered is whether antibiotic prophylaxis with another agent or whether prophylaxis that extends beyond the period of catheterization would reduce UTI risk in this population. ■

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Special Feature

Nausea and Vomiting in Pregnancy

By John C. Hobbins, MD

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Dr. Hobbins reports no financial relationships relevant to this field of study.

Synopsis: *A variety of methods and medications are available to treat nausea and vomiting in pregnancy — one of the most common and often vexing problems for pregnant women. Although most of these have had anecdotal suggestion of benefit and documented suggestions of efficacy through randomized trials, some have had limited exposure to investigations involving safety.*

SINCE ABOUT THREE-QUARTERS OF PREGNANT PATIENTS WILL experience some episodes of nausea and vomiting in the first trimester and sometimes further, this Special Feature has been fashioned to help the clinician deal with something that can be difficult for many patients to endure, but also challenging for providers to treat. Fortunately, only about 1-2% of patients will have the very severe form, hyperemesis gravidarum (HG), where there is accompanying weight loss (> 5% of body weight), dehydration, electrolyte imbalance, and ketosis — any of which could require hospitalization.

Some have attempted to categorize the severity of nausea and vomiting in pregnancy (NVP) according to the number of episodes of vomiting per day. For example, mild is described as 1-2 episodes per day lasting < 1 hour; severe is more than 5 episodes of vomiting per day with symptoms lasting for > 5 hours. In some studies, a severity scoring system — the Pregnancy-Unique Quantification of Emesis and Nausea — has been employed, but clinically it is hard to put a number on the degree of discomfort.

Although the timing of nausea and vomiting episodes has resulted in the term “morning sickness,” in some patients it also could be easily described as “afternoon” or “evening sickness,” leaving some patients completely incapacitated for most of the day. In fact, because of this, it has been estimated that the economic loss of this condi-

tion is between \$3000 and \$17,000 for patients suffering from the severe variety.¹

Reasons for NVP

NVP symptoms are temporally related to the rise in hCG and estrogen. Patients with twins, molar pregnancies, and those assisted reproductive technology patients with ovarian hyperstimulation (all having sky-high hCG levels) are particularly susceptible to severe NVP.

Psychological factors can play a role either on the front end or, certainly, as a result of the NVP. Hyperthyroidism has been blamed on occasion (falsely) because pregnancy, in general, causes a hypermetabolic state with a rise in T4 and decrease in thyroid-stimulating hormone. Also, hCG may have an independent thyroid-like effect in pregnancy.

Diagnosis

Since NVP is so common, most clinicians will not pursue other reasons for the symptoms until the condition becomes problematic. Another cause may be suspected if the symptoms start before the fifth week or persist well past 14 weeks — and the gastrointestinal (GI) tract is the logical place to start. However, by the time this diagnostic pathway is explored, one cannot tell whether the upper GI symptoms/signs of gastric reflux or esophagitis are primary or secondary factors.

There has been an attempt to link *Helicobacter pylori* with NVP and HG, since a majority of these patients have *H. pylori* antibodies. However, there is no correlation with this antibody level and the duration of symptoms.²

Treatment

Since NVP has been occurring through the ages, there have been more home remedies and concoctions for this than attempted cures for hiccups. I apologize that some of the following information is not new to providers. Below is an up-to-date assortment of therapeutic measures, a few of which have undergone some scientific scrutiny, but many others based predominantly on anecdotal experience alone.

Food and Fluid Intake. An empty stomach should be avoided. Small, frequent meals every 1-2 hours helps. If fluids are not tolerated with feedings, then fluid intake should be given between feedings to eventually attain a recommended threshold of eight glasses per day. With fluid intake, the colder the better, and many affected women have effectively used popsicles to counter dehydration. Sport drinks are often well tolerated and will replace lost electrolytes.

Although some have advocated ingestion of food with high carbohydrate content, there is a suggestion that protein triggers less gastric reflux. There is evidence that avoiding spicy or acid-generating foods, noxious odors,

cigarette smoke, or some perfumes is helpful. Chewable antacid tablets can have definite benefit while also replacing calcium and magnesium.

Vitamins. Vitamins, in general, are needed for many pregnant patients and may lessen the chances of having NVP, especially if taken before 6 weeks.³ However, vitamins spiked with iron may have the opposite effect, since iron is a common trigger of nausea and vomiting. There is no doubt that some women require supplemental iron, but in most cases it is not essential in the first trimester. Therefore, it is worth switching to an iron-less option such as a children's chewable vitamins. At least one randomized trial has shown significant improvement in NVP in women taking non-iron containing prenatal vitamins.⁴

Folic acid is necessary for the reduction of neural tube defects (NTD) and can be taken separately in women who find the typical prenatal vitamin contributory to their NVP. Most prenatal vitamins have 800 ug of folic acid, which is more than the minimal daily dietary requirement of 400 ug (CDC recommendation). However, individuals at risk for NTDs (diabetes, obesity, or previous child with NTD) have been advised to take 4000 ug (4 mg) of additional folic acid per day.⁵

Most importantly, pyridoxine (vitamin B6) alone has been shown to be of benefit in diminishing nausea and vomiting as a first step remedy⁶ and has not been associated with adverse fetal effect.

Medications. Often prescribed for motion sickness, the most frequent first-line medications for NVP are the antihistamine H1 blockers: doxylamine (Unisom[®]), meclizine (Antivert[®]), dimenhydrinate (Dramamine[®]), and promethazine (Phenergan). They stabilize the vestibular system while modifying stimuli to the vomiting center. Doxylamine is unlisted according to FDA classifications and, with the exception of promethazine, which has a class C listing, the others are in a class B category.

None of the H1 blockers has been shown to have teratogenic effect, and with pooled data from studies evaluating different antihistamines, there was an improvement in symptoms of NVP by about 70%.⁷ Maternal side effects include drowsiness, dry mouth, and rare extra-pyramidal effects. Since H1 blockers have weak anticholinergic properties, they should be used with caution in those with asthma, glaucoma, or pre-glaucoma.

The doxylamine story is worth telling. It was a component of a formula specifically designed for NVP when combined with dicyclomine (an antispasmodic) and vitamin B6. For many years, up to 25% of pregnant patients were using this medication, which bore the brand name Bendectin[®]. There was good documentation of its efficacy⁸ and there never was any scientific evidence of teratogenicity.⁹ However, in the 1980s, some lawsuits surfaced with claims that Bendectin[®] caused various birth defects.

Of those going forward, none ended in favor of the plaintiff, but, despite the drug's vindication in every case, the company chose to take it off the market rather than to engage in, seemingly, never-ending, expensive litigation. Undaunted, many clinicians reverted to the use of doxylamine alone, marketed as a sleeping aid (Unisom) with or without vitamin B6. A company has been making this combination (doxylamine and B6) in Canada under the name Diclectin, and very recently the FDA has approved its use in the United States (class A) under the label Diclegis.

Serotonin Antagonists. Often used in chemotherapy, a medication that has recently gained momentum in treating refractory NVP is a serotonin antagonist, ondansetron (Zofran[®]). This drug works by blocking the chemoreceptor trigger zone in the medullary vomiting center. Although anecdotal evidence abounds regarding its efficacy in cases of HG, there is a paucity of available randomized data. It carries a class C designation. An initial suspicion of it being linked with cleft lip and palate has not been subsequently validated.¹⁰ Also, the FDA has warned about the rare possibility of an association with lengthening of the QT interval, especially in patients with pre-existing cardiovascular problems.¹¹

Dopamine Antagonists. In this category are the phenothiazines, which have antipsychotic as well as antiemetic properties. More commonly used are the phenothiazines, prochlorperazine (Compazine) and chlorpromazine (Thorazine), both carrying Class C labels. Another in this category is the class C benzamide, metoclopramide (Reglan). Combined data from three older randomized, placebo-controlled studies⁷ showed significant benefit of the phenothiazines in NVP. Safety data, however, have been inconsistent and prolonged use can be associated with withdrawal in newborns and extra-pyramidal affects.

Also working on the vomiting trigger center through dopamine receptors, trimethobenzamide (Tigan) and metoclopramide have been used as second-line drugs in refractory NVP and have class C and B listings, respectively. Yet few data exist regarding their efficacy.

Steroids. Methylprednisolone (prednisone) has been used as a last-ditch treatment for HG, but rarely for milder NVP. Interestingly, although one study¹² showed this drug to be superior to promethazine in treating HG, especially regarding rates of re-hospitalization, another later randomized, controlled trial¹³ found no difference in the rate of re-hospitalization with this steroid vs placebo. Initially, there was a question of a linkage with cleft lip and palate, but this risk is low (1-2 per 1000 treated).¹⁴ However, its potential adverse neonatal and maternal effects (on the adrenal) should make this mostly a last-resort, short-term strategy for hospitalized patients.

Alternative Therapies. *Lifestyle changes.* Avoidance

of a stressful environment is easy to prescribe but often difficult to accomplish. The catalyst to NVP is often the home environment, which could be a major reason hospitalization is effective. Unfortunately, providing an alternate living setting often is not practical.

Ginger Root. Thought to have a direct effect on the GI system, the lay literature is replete with testimonials of the efficacy of ginger root in curbing NVP. Many RCTs have suggested its benefit in NVP compared with placebo controls, but others have shown no added benefit over pyridoxine alone. In the treatment of HG, a more recent RCT showed improvement in nausea (85% vs 56%) and vomiting (50% vs 9%) with ginger root compared with placebo.¹⁵ There has been no evidence of adverse fetal effects but since there is some suspicion that ginger root can interfere with maternal platelet aggregation, it may not be the first choice in patients on low-dose aspirin or anticoagulants.

Acupuncture. For NVP, the Neiguan acupoint on the inner wrist (P6) has been the locus of attention for either pressure via a wristband (either with pressure alone or with acoustic stimulation) or an acupuncturist's needle. Efficacy studies have had conflicting results, and randomized trials have been hindered by the lack of adequate controls. However, a recent randomized trial from Australia¹⁶ did show benefit of acupuncture delivered in two ways. Smith et al assigned 593 patients with NVP to having traditional acupuncture, P6 acupuncture, sham procedures, or no treatment (controls). Both types of acupuncture caused a lessening of nausea, vomiting, and dry retching vs controls. Interestingly, the sham approach reduced nausea and dry retching, but not vomiting.

Marijuana (cannabis). Living in Colorado where marijuana has recently been legalized, how can I *not* mention this as an alternative to reduce unresponsive NVP? It has been used on occasion to reduce nausea and vomiting from chemotherapy. However, although one can find glowing anecdotal accounts online regarding its use in severe NVP, evidence-based information is difficult to come by — mostly because investigators are reluctant to stray into this highly charged social and political arena.

As an example of the only type of information available on efficacy, in a published survey¹⁷ from British Columbia (the Vancouver Island Compassion Society), 84 pregnant women responded anonymously to a questionnaire and 36 admitted to using marijuana to curb nausea and vomiting. Ninety-two percent claimed they found it to be either “extremely effective” or “effective.”

A few studies have explored possible adverse effects of marijuana. One often-quoted follow-up investigation¹⁸ involved infants of Jamaican mothers who had prenatal exposure to marijuana (ganja), where, despite being illegal, it is commonly used to combat NVP. There were no dif-

ferences in birth weight or in neurological testing (by the Brazelton scale analysis) at 3 days of age in exposed compared with control neonates. Ill-conceived bumper sticker material could spring from the puzzling finding that the marijuana-exposed infants tested better neurologically after 30 days than controls — which may well have been due to socioeconomic factors. Surveys of 12,060 British women in 2002,¹⁹ 12,885 Dutch women in 1999,²⁰ as well as 32,483 mothers in Australia in 1997²¹ found no differences in birth weights in marijuana users vs controls after accounting for confounding variables.

Obviously, birth weight is one endpoint to evaluate because of the association between cigarette smoking and intrauterine growth restriction, but more extensive testing would be needed to clear marijuana of a possible effect on the fetal CNS, a possibility suggested by some cognitive studies in children exposed in utero^{22,23,24} during sustained use, but not others.²⁵ Nevertheless, in special cases the potential benefit of this short-term approach cannot be easily pushed aside.

Table 1. Simplified Approach to Treating NVP

First-line approach:

1. Dietary manipulation
2. Vitamin adjustment
3. Pyridoxine (B6), 25 mg TID
4. Doxylamine (Unisom), 10-20 mg HS
5. Diclegis (instead of 3 and 4), 1-2 tabs HS or up to 5 per day
6. Ginger root, 250 mg QID
7. Acupressure band
8. Avoidance of work or home stressors

Second-line approach (if NVP not improved after 5-7 days)

1. Another H1 blocker such as dimenhydrinate (Dramamine), 25-50 mg q 4-6 hrs; promethazine (Phenergan), 12.5-25 mg TID; or meclizine (Antivert), 25 mg q 4-6 hr
2. A phenothiazine such as prochlorperazine (Compazine), 5-10 mg QID, or another dopamine antagonist such as metoclopramide (Reglan), 5-10 mg TID
3. A serotonin antagonist such as ondansetron (Zofran), 4-8 mg TID
4. Acupuncture

Third-line treatment (if all else fails)

1. Hospitalize if weight loss of > 5% of original body weight, significant dehydration, or electrolyte imbalance.
2. IV hydration and correction of electrolyte imbalance
3. Explore *H. pylori* (with GI consultation) as a cause and treat if there is a suspicion of causation
4. Consider steroids: methylprednisolone 16 mg TID x 3 days, then taper
5. Short-term parenteral nutrition may be necessary

Complications of NVP

Severe NVP can occasionally develop into some very serious complications, such as vitamin deficiency (especially thiamin) resulting in conditions such as Wernicke syndrome, as well as hypokalemia, acid-base imbalance, and impressive maternal weight loss. One study has shown that women with HG who gained < 15 pounds have a higher rate of low birth weight infants and lower 5-minute Apgar scores.²⁶ While not having an obvious effect on neurological outcome at 1 year of age, there is a higher rate of low birth weight, preterm birth, and SGA infants.²⁷

Based on the known possible complications of intractable NVP, and its significant disruptive effect on patients and their families, one cannot ignore the known benefits of some second- and third-line therapies when compared with their unknown or unlikely risks. Table 1 represents a simplified approach to the treatment of NVP. ■

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CME Instructions

To earn credit for this activity, follow these instructions:

1. Read and study the activity, using the provided references for further research.
2. Scan the QR code at the right or log on to www.cmecity.com to take a post-test; tests can be taken after each issue or collectively at the end of the semester. First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice or renewal notice.
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the completed evaluation is received, a credit letter will be e-mailed to you instantly. You will no longer have to wait to receive your credit letter!



CME Questions

1. Which of the following is **not** one of the 10 hospital practices to encourage and support breastfeeding?
 - a. Rooming-in of mothers and infant after birth
 - b. No pacifiers except for analgesic purposes for procedures
 - c. Offer mothers the opportunity to initiate breastfeeding within 1 hour of giving birth
 - d. Mandatory lactation consult for every postpartum mother
 - e. Train all pertinent health care staff in the skills necessary to encourage breastfeeding
2. Which of the following statements is **true** concerning catheter-related urinary tract infections?
 - a. Catheter-related urinary tract infections are not very common.
 - b. The best way to prevent catheter-related urinary tract infections is to give antibiotics to all patients with a catheter.
 - c. Decreasing unnecessary catheterization and decreasing length of catheterization are main tenets employed to reduce catheter-related urinary tract infection.
 - d. All of the above are true.
3. Doxylamine in combination with vitamin B6 is effective in the treatment of nausea and vomiting in pregnancy.
 - a. True
 - b. False

In Future Issues:

'An aspirin a day keeps the ovarian cancer away...'

OB/GYN Clinical Alert

Reader Survey 2014

In an effort to ensure *OB/GYN Clinical Alert* is addressing the issues most important to you, we ask that you take a few minutes to complete and return this survey. The result will be used to ensure you are getting the information most important to you.

Instructions: Mark your answers by filling in the appropriate bubbles. Please write in your answers to the open-ended questions in the space provided. Either fax the completed questionnaire to 404-492-5933, or return it in the enclosed postage-paid envelope. The deadline is **July 1, 2014**.

Following is a list of topics frequently discussed in *OB/GYN Clinical Alert*. To help us understand your needs, please fill in the appropriate answer to indicate your interest in that topic.

- | | A. very useful | B. fairly useful | C. not very useful | D. not at all useful |
|---------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1. HRT issues/concerns | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 2. Contraception | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 3. Ovarian cancer | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 4. Breast cancer | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 5. Cervical cancer | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 6. Pap smear testing | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 7. Postmenopausal patients | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 8. Labor/delivery complications | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 9. Bone density | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 10. Cesarean section | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |

11. What other topics would you like to see discussed in *OB/GYN Clinical Alert*? _____

12. Are the articles in *OB/GYN Clinical Alert* written about issues of importance and concern to you?

- A. always B. most of the time C. some of the time D. rarely E. never

13. What type of information not currently provided in *OB/GYN Clinical Alert* would you like to see added? _____

Please rate your level of satisfaction with the items listed. Please mark your answers in the following manner:

- | | A. excellent | B. good | C. fair | D. poor |
|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 14. quality | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 15. article selections | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 16. timeliness | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 17. quality of commentary | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 18. clearness of abstracts | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 19. overall value | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |
| 20. customer service | <input type="radio"/> A | <input type="radio"/> B | <input type="radio"/> C | <input type="radio"/> D |

21. Are the articles in *OB/GYN Clinical Alert* newsletter:

- A. too short B. too long C. about right

22. To what other publications or information sources about OB/GYN issues do you subscribe?

23. Including *OB/GYN Clinical Alert*, which publication or information source do you find most useful, and why?

24. Please describe your work place:

- A. private practice B. hospital C. government institution D. research
 E. Other _____

25. Do you have Internet access at work? yes no

26. Would you like to receive *OB/GYN Alert* via e-mail? yes no

27. If you would you like to receive *OB/GYN Alert* via e-mail, please provide your e-mail address:

28. How much time do you spend accessing job-related information via on-line services (Email list servs, web site, etc)?

- A. 0 hours per week B. 1-5 hours per week C. 6-10 hours per week D. more than 11 hours per week

29. In the future, how do you plan to obtain your CME credits?

- A. travel to live conferences B. subscription-based newsletters/journals C. outside-sponsored teleconferences
 D. Internet-based activities E. Other (please specify) _____

30. List the top three challenges you face in your job today.

1. _____
2. _____
3. _____

Contact information _____
