

# Gel Seen as Beneficial in Sonohysterography

*Gel improves diagnostic accuracy compared with saline, and it saves ‘an enormous amount of time.’*

BY PATRICE WENDLING

HAMBURG, GERMANY — Diagnostic accuracy tends to be higher when the uterine cavity is distended with gel rather than saline during sonohysterography in women with abnormal bleeding, research results showed.

Use of gel instillation sonohysterography (GIS) also may resolve cervical leakage during saline infusion sonohysterography (SIS), thereby making the procedure easier on both the patient and the clinician.

“We had a large need for towels and even sometimes boots,” Dr. Mark Emanuel said at the 19th World Congress on Ultrasound in Obstetrics and Gynecology.

He presented data from the first randomized trial to compare the two techniques, demonstrating a diagnostic accuracy of 89% for GIS and 73% for SIS in 103 women with abnormal uterine bleeding and an abnormal or inconclusive transvaginal ultrasound. The between-group difference failed to reach significance, but statistical calculations showed it would have if an additional 50 patients were added to the cohort. The sensitivity for GIS was 97% vs. 85% for SIS, and the specificity was 82% vs. 77%.

Gel instillation cuts investigation time and can be performed by one clinician, whereas SIS requires two persons to help

refill the uterine cavity with saline, said Dr. Emanuel, a gynecologist at Spaarne Hospital, Hoofddorp, the Netherlands.

Cavity distention was up to 3 minutes in most cases after approximately 4 mL of gel were placed in the cervix. That compares with about 10-15 minutes with saline, which had to be reinfused through a catheter in the uterine cavity after about 20 seconds.

“It saves an enormous amount of time,” Dr. Emanuel said in an interview. “To instill a few milliliters of gel is much easier and can be done by almost anyone who can perform transvaginal scanning.”

Scores on visual analog scales measuring GIS and SIS inconvenience with 0 being very inconvenient were not significantly different, however, among clinicians (7.9 vs. 6.4) or patients (7.6 vs. 7.8).

Dr. Emanuel said gel instillation is a safe alternative to SIS and provides clinicians with a more stable image. “If you want to do 3-D scanning it’s mandatory that you use gel,” he said. “For 3-D scanning, you don’t want any moving fragments because they create artifacts. Saline infusion with 3-D is very difficult.”

During the same session, Dr. Thierry Van den Bosch, who has worked extensively with gel instillation, said it produces lower failure rates and at least similar diagnostic accuracy. In an observational study of two consecutive cohorts of 402 women, the technical failure rate for GIS

was 1.9%, compared with 5% for SIS. Failure due to inadequate uterine cavity distention was 0.3% vs. 1.5%.

The sensitivity for GIS was 85% vs. 77.8% for SIS, and the specificity was 78.1% vs. 80.7%. Negative predictive values were “comparable” at 88.6% for GIS and 79.1% for SIS, said Dr. Van den Bosch of the University Hospitals, Catholic University of Leuven (Belgium).

He also presented data from a study in which six gynecologists were asked to predict intracavity uterine pathology in 111 consecutive women from the hospital’s bleeding clinic based on 3-D volumes, including unenhanced ultrasound as well as GIS with and without power Doppler. The only clinical information they had was patients’ age (mean 50.4 years) and menopausal status (63% were premenopausal).

Although the examiners were able to accurately differentiate normal from abnormal endometrium in the majority of cases, interobserver variability for these “off-line” assessments was substantial. The best agreement between three examiners was a Schouten kappa of 0.69, with an overall kappa of 0.51.

“Certainly interobserver variability should be improved, and I think it illustrates how difficult it is to give your opinion [when you are] not seeing the patient or doing the ultrasound yourself,” said Dr. Van den Bosch. “Perhaps if we had more strict [diagnostic sonographic] criteria we would have done better.”

The first experience with GIS was

reported in 2007 (Fertil. Steril. 2007;87:152-5), but concerns were raised at the time about the safety of the gels (Fertil. Steril. 2007;88:536-7).

Dr. Van den Bosch said a study he presented at last year’s congress showed that the addition of lidocaine to the gel did not alter patients’ pain and should not be used because of the potential for anaphylactic reactions.

It’s been suggested that gels containing chlorhexidine may reduce the risk of infection, but concerns have been raised about embryotoxicity in younger women.

An audience member questioned whether pregnancy has been an issue after gel exposure. Several patients have gotten pregnant without difficulty, said Dr. Van den Bosch.

Dr. Emanuel said that one gel has been reformulated without lidocaine and includes substances used in medicine for years, and that testing in mouse models shows no evidence of embryotoxicity.

Cost and ultrasound image quality are similar with the three commercially available gels, but manipulation of the gel should be avoided as it creates air bubbles that can disturb the ultrasound image, the investigators noted. ■

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**Disclosures:** Dr. Van den Bosch said he had no financial conflicts of interest. Dr. Emanuel reported being a stockholder and receiving royalties from Giskit BV.

## Breastfeeding Tied to Lower Risk of Metabolic Syndrome

BY ELIZABETH MECHCATIE

The longer a woman breastfeeds, the less likely she will develop metabolic syndrome over time, even if she has a history of gestational diabetes, according to the results of a prospective study that followed almost 1,400 women for 20 years.

The study appeared online in *Diabetes: The Journal of the American Diabetes Association* (2009: [doi.org/10.2337/db09-1197]). It will be published in the print edition of the journal in February.

“Longer duration of lactation was associated with lower incidence of the metabolic syndrome years after delivery and post weaning” among the women who had developed gestational diabetes during pregnancy and those who had not, concluded the authors, who added that these associations could not be explained by lifestyle factors. Having breastfed for more than 1 month was associated with a 39%-46% low-

er incidence of metabolic syndrome (depending on duration of breastfeeding) among women with no history of gestational diabetes, and with a 44%-86% lower incidence among those with gestational diabetes.

“The findings indicate that breastfeeding a child may have lasting favorable effects on a woman’s risk factors for later developing diabetes or heart disease,” the lead author, Erica P. Gunderson, Ph.D., said in a statement released by Kaiser Permanente.

Their findings did not appear to be caused by differences in weight gain, physical activity, or other health behaviors, but less abdominal fat and higher levels of high-density lipoprotein were characteristic of women who did not develop metabolic syndrome, added Dr. Gunderson of the division of research, epidemiology and prevention at Kaiser Permanente, Oakland, Calif. The study followed 1,399

women enrolled in the Coronary Artery Risk Development in Young Adults (CARDIA) study, who were aged 18-30 years when they were enrolled, had never delivered a baby, and did not have metabolic syndrome at baseline.

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(CARDIA is a U.S. multicenter, population-based, observational study that is looking at the development of coronary heart disease risk factors in young black and white adults.)

Metabolic syndrome was defined using the National Cholesterol Education Program criteria for the diagnosis, which includes the presence of 3 of 5 characteristics that include waist girth over 88 cm, and a fasting triglyceride level of 150 mg/dL or

more. Of these women, 704 had at least one singleton live birth in 1986-2006, including 84 who had gestational diabetes; over 20 years, 120 cases of metabolic syndrome were diagnosed among these women. The overall incidence of metabolic syndrome was 12.0 cases/1,000 person years. The incidence was significantly higher among those who had been diagnosed with gestational diabetes during pregnancy, than those who had not (22.1 cases/1,000 person years, compared with 10.8 cases/1,000 person years.)

“Among women with and without GDM [gestational diabetes mellitus] pregnancies, a longer cumulative duration of lactation was strongly protective, even after controlling for parity and baseline covariates, including components of metabolic syndrome before pregnancy,” the authors wrote. They noted that in previous studies, lactation has been found to have favorable

effects on cardiometabolic risk factors in women with and without a history of gestational diabetes, but there have been few studies on whether these favorable effects persist and are protective after weaning.

They also pointed out that although lactation is associated with greater weight loss, changes in weight did not explain the association between lactation and metabolic syndrome that they found. More studies are needed to “elucidate the mechanisms through which lactation may influence women’s cardiometabolic risk profiles, and whether lifestyle modifications, including lactation duration, may affect development of coronary heart disease and type 2 diabetes, particularly, among high-risk groups such as women with a history of GDM,” they wrote. ■

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