an opportunity to impact this outcome by routinely giving guidance to women throughout pregnancy. Unfortunately, we don’t seem to do it routinely, and furthermore, we are not well trained to do so. Thus, consideration should be given to how we might use nutritionists and exercise physiologists to counsel pregnant women either by incorporating these individuals into our practices or by ensuring referrals to such providers. For smaller practices, this will be challenging, and how such counseling can be reimbursed is further challenging still. In my state, for example, a nutritionist visit is not routinely covered by Medicaid unless the patient is diagnosed as having gestational diabetes; an obesity diagnosis is not adequate. This seems pennywise and pound foolish and certainly is inconsistent with recent pushes toward the Triple Aim. If we can find relatively inexpensive ways to reduce GWG, there will likely be many reduced health care expenditures for both women and their offspring as a result. But, we must take this on as women’s health care providers and discuss nutrition, exercise, and weight gain with every pregnant woman.—ABC

Total Pregnancy Loss After Chorionic Villus Sampling and Amniocentesis: A Cohort Study

M. Bakker, E. Birnie, P. Robles de Medina, K. M. Sollie, E. Pajkrt, and C. M. Bilardo

Fetal Medicine Unit, Department of Obstetrics and Gynecology (M.B., E.B., K.M.S., C.M.B.), and Department of Genetics (E.B.), University Medical Center Groningen, University of Groningen, Groningen; and Fetal Medicine Unit, Department of Obstetrics and Gynecology, Academic Medical Center, Amsterdam (P.R.d.M., E.P.), the Netherlands


ABSTRACT

Invasive prenatal procedures such as chorionic villus sampling (CVS) and amniocentesis are often assessed based on their procedure-related fetal loss rate (FLR), which is defined as the total FLR minus the spontaneous FLR. Spontaneous FLR is determined based on the maternal risk profile, whereas procedure-related risk depends on operator experience, technical difficulties, and instruments utilized. A previous randomized clinical trial reported that women who underwent amniocentesis had a 1% higher FLR than a matched control group. Experts now believe procedure-related risks require reevaluation, and meta-analyses show that current estimates of risk for these invasive procedures may be incorrect.

This retrospective cohort study was conducted at the University Medical Center Groningen and the Academic Medical Center in Amsterdam, the Netherlands. Both centers' databases were used to identify singleton pregnancies (n = 29,201) that had received a combined test and/or anomaly scan at 20 weeks' gestation or an invasive procedure such as amniocentesis or CVS between January 2001 and December 2011. Each case was then categorized into 1 of the following 5 groups: first-trimester combined test (together with 20-week anomaly scan), 20-week anomaly scan only, CVS, amniocentesis, and amniocentesis after unsuccessful CVS. Fetal loss rates were subsequently compared between groups.

Multiple regression analyses were used to identify variables associated with FLR. In women undergoing CVS, variables associated with an increased FLR included repeat attempts during the procedure, use of a transcervical (TC) cannula rather than forceps for TC-CVS, gestational age of 13 weeks or greater, and pregnancy after assisted reproduction. In women undergoing amniocentesis, variables associated with increased FLR included repeat attempts during the procedure, presence of a fetal anomaly, and a family history of congenital anomalies. Before 24 weeks' gestation, procedure-related FLR for CVS—irrespective of technique—was 1.93% compared with the combined test. Before 24 weeks' gestation, the procedure-related FLR was 1.25% for amniocentesis compared with a 20-week anomaly scan alone. In women aged 36 years or older, the procedure-related FLRs from TC-CVS and transabdominal (TA)-CVS were 1.36% and 1.03%, respectively, when compared with the combined test. In women 36 years or older who underwent amniocentesis, the procedure-related FLR was 0.48% when compared with the 20-week anomaly scan alone. The correlation between increased operator experience and lower FLR for amniocentesis and CVS was confirmed.
This study showed the risk of fetal loss after an invasive procedure when performed by an experienced operator was 0.17% to 0.52%, unless a cannula was used, as compared with the previously quoted 1% risk after amniocentesis. This study also shows TC-CVS with forceps and TA-CVS should be the preferred first-trimester choices, and growing experience with these procedures could lower their FLR to that for amniocentesis.

EDITORIAL COMMENT

(The procedure-related loss rate of midtrimester amniocentesis at 16 to 20 weeks’ gestation has decreased over time, thought due to increasing experience, as well as improvements in imaging. There continues to be marked inconsistency, however, in the quoted risks of procedure-related miscarriage. The origins of the historic estimate of 1/200 are unclear, although this number was widely cited for many years. Recently, a meta-analysis was published that reported far lower loss rates (Ultrasound Obstet Gynecol 2015;45:16–26). In 2015, the American College of Obstetrics and Gynecology published a practice bulletin in which the procedure-related loss rate after midtrimester amniocentesis was stated to be approximately 1/900, whereas the loss rate for CVS was reported to be likely the same as that for amniocentesis.

In this abstracted article, the authors reported on the estimated procedure-related loss rates at a single center in the Netherlands and identified maternal-, operator-, and procedure-related variables that affect rates of pregnancy loss after CVS and amniocentesis. They compared loss rates to the background rate in women who underwent nuchal translucency ultrasound at 11 to 14 weeks’ gestation and/or had an anatomy scan at 18 to 20 weeks’ gestation but who did not undergo an invasive diagnostic procedure. They found that in the more than 29,000 women seen in their center over 10 years, the risk of miscarriage after an invasive diagnostic procedure was 0.17% to 0.52%, or about 1/200 to 1/600. The rate of pregnancy loss was associated with repeat attempts at the procedure, presence of a fetal anomaly, and a family history of congenital anomalies. For CVS, loss rates were also associated with the instrument used (forceps vs cannula), gestational age (<13 or ≥13 weeks), and assisted reproduction.

The rate of loss from prenatal diagnostic procedures has been estimated to range from a high of 1% (Lancet 1986;327:1287–1293) to a low of 1/1600 (Obstet Gynecol 2006;108:1067–1072). In another study that used propensity scoring, the authors found that there was no difference in the rate of miscarriage in women who did, or did not, undergo CVS or amniocentesis. Propensity score analysis is a statistical method of analyzing results of an observational study to mimic the outcomes of a randomized trial by balancing variables that lead to treatment differences between groups. In observational studies of invasive diagnostic testing, women at higher risk are more likely to undergo such testing, therefore artificially increasing the apparent risks of the procedure. In this study that accounted for such differences by considering risk factors such as analyte levels, maternal age, and gestational age at the time of the procedure, the loss rate was not increased after a diagnostic test (Ultrasound Obstet Gynecol 2016;47:38–44).

It is not completely clear why the risks of amniocentesis have decreased so much since its introduction. This is often attributed to experience and improvements in imaging, and this study supports the importance of experience. Similarly, data from the California state prenatal screening program indicate that providers who do more than 60 procedures annually have fewer adverse outcomes (defined as needing to do >1 needle pass to obtain an adequate sample) than do those who do fewer (AJOG 2015;212(1);suppl:pS122). But some of the difference very likely results from differences in how the analyses have been done; many earlier studies did not compare outcomes to any sort of control group; thus, often the background loss rate was not adequately considered.

Ideally, when discussing prenatal testing, all options should be offered to all women, after informed consent. Concerns that offering all test options to all women may lead to an increased rate of procedures and procedure-related losses are unfounded for 2 reasons. First, studies have demonstrated that the offer of all testing options after informed consent actually decreases the rate of invasive diagnostic testing (Obstet Gynecol 2014;124(5):979–986; JAMA 2014;312:1210–1217).
Second, undergoing an invasive procedure does not increase the miscarriage risk to any significant degree. It is therefore critically important that patients be adequately and accurately counseled when considering prenatal testing options, as the diagnostic capability of amniocentesis and CVS is so much greater than cell-free DNA (cfDNA) screening, especially when chromosomal microarray is used. Those of us who perform prenatal diagnosis procedures are well aware that the volume of such tests has dropped markedly since the introduction of cfDNA screening, and clearly many patients are choosing this alternative to diagnostic testing. That has been presented as a desirable trend, which is clearly true provided patients are making these choices based on careful presentation of balanced risks and benefits of all test options, and not on misinformation regarding either the capabilities of cfDNA or the risk of diagnostic testing.—MEN

Effect of an Internet-Based Program on Weight Loss for Low-Income Postpartum Women: A Randomized Clinical Trial

Suzanne Phelan, Todd Hagobian, Anna Brannen, Karen E. Hatley, Andrew Schaffner, Karen Muñoz-Christian, and Deborah F. Tate

Kinesiology Department, California Polytechnic State University, San Luis Obispo, CA (S.P., T.H., A.B., A.S., K.M.-C.); and Departments of Health Behavior and Nutrition, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC (K.E.H., D.F.T.)

JAMA 2017;317(23):2381–2391

ABSTRACT

Postpartum weight retention increases the lifetime risk of obesity, and this risk seems to be highest among low-income women. The current clinical trial aimed to test if an Internet-based weight loss program in addition to a special supplemental nutrition program for women, infants, and children (WIC program) could aid low-income postpartum women in greater weight loss than the WIC program alone.

This study used a 12-month, cluster-randomized, assessor-blind, clinical trial enrolling 371 adult postpartum women (recruitment period from July 2011 to May 2015) at 12 clinics in WIC programs in California. Women who were at least 6 weeks postpartum and no more than 1 year postpartum and who weighed at least 4.5 kg greater than their prepregnancy weight were recruited. The cluster-randomized approach meant that some WIC clinics were randomized to standard programmatic counseling and care, whereas others were randomized to the intervention that included an Internet-based counseling tool with weekly lessons, daily activity goals, weekly text messages, and monthly face-to-face group meetings at the WIC center. Study subject assessments were conducted at the beginning, middle (6 months), and end (12 months) of the trial where participants were paid $25 at 6 months and $50 at 12 months. Dietary intake was assessed using 24-hour recalls on 2 random days over a week and completed using the National Cancer Institute Automated Self-administered 24-Hour (ASA24) dietary assessment tool. Physical activity was measured using waist-worn accelerometers. Participants had a mean age of 28 years, and participant retention was 92.7%.

Overall, the use of the Internet-based program significantly increased postpartum weight loss over a 12-month period by 2.3 kg versus more traditional methods (−3.2 vs −0.9 kg, P < 0.001). In addition, the group who achieved more than 10% of body weight loss doubled from 12.8% to 26.0% (P = 0.007). Ease of access from home or lack of the need for more frequent face-to-face interactions with a traditional clinic was seen as one of the strongest benefits from using this method. Further research is needed to examine the potential economic impact of such programs, how the impact may be increased, and the long-term impact on metabolic disease.