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THE USE OF BREAST STIMULATION TO PREVENT POSTDATE PREGNANCY

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ABSTRACT

Postdate pregnancy is estimated to occur in 3% to 12% of all gestations. Morbidity and mortality rates associated with this common obstetric problem are higher than those with term gestation. The incidence of fetal distress, birth injury, meconium aspiration, congenital malformations, macrosomia, and oligohydramnios is also greater in postdate pregnancies. We prospectively evaluated breast self-stimulation to determine its effect on the incidence of postdate pregnancy. One-hundred uncomplicated patients at 40 weeks gestation were randomly assigned to either a control group or a breast-stimulation group. Results showed that breast stimulation reduced the number of pregnancies managed as postdates from 22 per 100 (22%) to zero per 100 (p= 0.002).

It is concluded that breast stimulation in postdate pregnancies can decrease significantly the number of patients that must be monitored by biochemical or biophysical means.

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INTRODUCTION

The most common reason for a pregnancy to become high risk is its extension beyond 42 weeks (294 days). The incidence of postdate pregnancy determined retrospectively varies from 2.9% to 12%.[1-4] Since it is difficult to determine the date accurately in many cases, overdiagnosis of postdate pregnancy is a frequent problem in clinical practice. Morbidity and mortality rates of the fetus associated with true postdate pregnancy are higher than those with delivery at term.[1,2,5,6] Zwerdling reported a significant increase in mortality among post-term infants through 2 years of age.[2] The importance of postdate pregnancy is also highlighted by medicolegal consequences. Freeman, in reviewing his experience of testifying for the defense in malpractice suits, reported that approximately 40% of obstetric malpractice cases involved post-term pregnancies.[7] Various management protocols have been evaluated in an attempt to select those pregnancies truly at risk for fetal mortality. Antepartum testing methods include the nonstress test (NST),[3,4,6-8] the contraction stress test (CST),[3,4,9-11] estrogens,[3,7,11] human chorionic somatomammotropin[12] and amniocentesis.[10,13] None of these methods have been shown to be completely successful in preventing mortality and morbidity. Routine induction of labor as an alternative in postdate pregnancies has not improved outcome and is associated with an increased rate of cesarean section.[1,5]

We have performed a prospective trial to determine the effect of breast stimulation on the incidence of postdate pregnancy.

MATERIAL AND METHODS

One-hundred obstetric patients at approximately 40 weeks' gestation participated in this study. All patients had uncomplicated prenatal courses and were at low risk for uteroplacental insufficiency. The nature of the study was explained and informed consent was obtained from each patient. Gestational age was determined by the best obstetric estimate of date of confinement, with the use of a reliable menstrual history (normal, predictable, cyclic, spontaneous menses), no recent use of oral contraceptives, an early pregnancy test, an early vaginal estimation of uterine size, fetal heart auscultation at 20 weeks, and obstetric sonograms. Patients were randomly assigned to treatment or control groups based on a table of random numbers. Fifty patients

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Table V. Outcome for mother and infants among the two groups.

Outcome	Breast stimulation		Control		*p* value
	N	%	N	%	
Type of labor					
Spontaneous labor	41	82	31	62	
Induction of labor	9	18	19	38	0.005
Type of delivery					
Normal delivery	47	94	39	78	0.0675
Cesarean section(C/S)	3	6	11	22	0.033
Failure to progress	1		6		
Fetal distress	1		5		
Other	1		0		
APGAR score (<7)					
1 min	0	0	2	4	0.04
5 min	0	0	0	0	NS
Birth weight (g)					
<3500	33	66	33	66	
3500-4000	16	32	14	28	NS
>= 4000	1	2	3	6	
Fetal distress in labor	3	6	6	12	0.04
Meconium in labor	3	6	7	14	0.04
Death	0		0		

ery for patients who performed stimulation 1,2, or 3 hours per day. These data support a direct positive correlation between breast stimulation duration (h) and time of delivery and suggest that the length of >= 3 hours per day is important.

The use of breast stimulation at home encourages a normal, healthy, term pregnancy. Because breast stimulation performed at home represents an unmonitored situation, the stress of the contractions might worsen preexisting fetal distress in high risk pregnancies. Furthermore, breast stimulation can cause uterine hypertonus which might be detrimental to fetuses with preexisting uteroplacental insufficiency. Patients must be carefully selected for this treatment. We recommend daily fetal movement counts for patients who are stimulating the breasts at term. In questionable cases, a breast stimulation stress test should be performed before the patient is instructed to use this technique at home. Postdate pregnancy presents a problem to all obstetricians and pediatricians. Instructing low-risk patients at term in the technique of breast self-stimulation leads to approximately a 100% reduction in the incidence of postdate pregnancies that must be considered "high risk" and monitored by management protocol. The excellent outcome of normal term pregnancies as documented in this study supports the concept of safe delivery at term rather than surveillance by any method after term. On the basis of our experience in more than 100 pregnancies in which patients have stimulated the breast with no known adverse effects, we feel that the safety of the technique is excellent. Adverse fetal effects appear to be minimal. We believe that the benefits for the fetus in preventing postdate delivery outweigh any unknown potential risk. Since obstetric and perinatal complications do occur in prolonged pregnancy not accompanied by meconium or a positive CST, research for alternative methods of fetal surveillance and obstetric management is necessary.

Table VI. Relationship between amount of breast stimulation and onset of labor.

Group	Labor interval/day (mean±SD)
Control	9.74±4.309
Breast stimulation	5.90±2.435

Significant at $p<0.0001$.

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