MANAGEMENT OF POST-DATE PREGNANCIES WITH UNFAVORABLE CERVIX IN PRIMIGRAVIDA

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ABSTRACT

Objective: To determine the best management of pregnancy beyond 41 weeks, with an unfavorable cervix for induction in primigravida.

Method: Two hundred and six pregnant women with uncomplicated pregnancies that reached 41 week gestation with unfavorable cervix (Bishop Score< 4); cephalic presentation were randomly allocated into two groups. First group, the study group: daily placement of prostaglandin pessary until 42 weeks. While in the second group daily cervical examination and assessment. Study and control group ratio was 1:1. The date confirmed by ultrasound early booking.

Results: In the study group, ninety-three of patients (90.3%) had successful outcome after one or two prostaglandin pessaries. Ten of patients (9.7%) reached 42 weeks of gestation without any cervical changes.
In the control group, seventy three of patients (70.9%) reached 42 weeks of gestation without any cervical changes (the same Bishop Score), while thirty of patients (29.1%) had spontaneous labor.

Conclusion: Daily placement of a prostaglandin pessary is successful in reducing the number of inductions of labor at 42 weeks for post-term pregnancies.

Key words: Management, Post-date pregnancies, Unfavorable cervix.

JRMS June 2006; 13(1): 19-22

Introduction

Management of prolonged pregnancy is a subject of concern because of its known association with increased fetal morbidity and mortality [(1)]. Post-term pregnancy can be managed by either induction of labor or antenatal surveillance [(2)]. With a cervix favorable for induction, there are several actions can be taken, induction of labor or cervical ripening followed by labor induction.

Unripe cervix can be found in 80% of women whose pregnancies reached the forty- second weeks [(3)]. Identification of unfavorable cervix at 41 week is unlikely to change by 42 weeks and induction is frequently required [(3)].

Prostaglandins have been used to ripen the cervix before labor induction with oxytocin [(4)]. A topically applied prostaglandin product, containing either dinoprostone or misoprostol is the most popular means to soften and dilate the cervix [(5)]. With misoprostol, mean time from beginning of contraction until delivery is about 7 hours [(6)].

This process is expensive and has received mixed reviews, as to its success in preventing post-term gestation [(7)]. Separation of the membranes from the lower uterine segment by examining finger, or membrane stripping, has been used to ripen the unfavorable cervix and prevent a prolonged pregnancy [(8)]. This technique is inexpensive and simple, but some feel it might be associated with infection, bleeding, or rupture of the membranes and therefore it has not gained wide acceptance [(9)].

Women worry when they have not delivered by the expected date of delivery because they think that post expected date of delivery is the same as prolonged pregnancy, which carries risks to the fetus.

Such anxiety should not arise if women are counseled at their first visit, that they are most likely to deliver between 38 and 42 week and not on the expected date of delivery, and that prolonged pregnancy refers to gestations greater than 42 weeks. Tests of fetal well-being are usually instituted after 41 weeks [(10)]. (Enters

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Manuscript received June 1, 2003. Accepted received August 27, 2003

vary in the availability) of tests for fetal- well being and may find it difficult to cope with the demands of conservative management.

On the other hand, earlier institution of fetal testing will increase the demand for induction of labor. The management has to be tailored to suit the facilities available in each center. Any management policy should weigh the risk- benefit ratio of intervention versus non-intervention and should also take into consideration the patients wishes after having counseled her with the relevant information. Patients with unfavorable cervices who begin labor during cervical ripening have greater gestational age, more baseline uterine activity, more initial uterine activity in response to PGE2, and lesser cesarean delivery rate than those patients who do not begin labor during cervical ripening [(11)].

Methods

A clinical double-blinded, well- controlled randomized study was conducted at King Hussein Medical Center maternity ward over 8 months period from January to August 1999. All 206 primigravida were referred to antenatal assessment clinic for twice weekly non stress tests (NSTs) and amniotic fluid evaluations after the gestation reached 41 weeks. Gestational age was confirmed by early booking, and last menstrual period, as well as early scanning for dating. During the initial evaluation, all patients without a contraindication to pelvic examination (Placenta previa, rupture of membranes, etc.), had cervical assessment with Bishop Score assigned. (Table I)

All women were invited to participate in this study if they had an otherwise uncomplicated pregnancies, had no contraindication to vaginal delivery, and had a Bishop score < 4.

Patients were randomly allocated to one of two groups. The first was the study group, which received a daily cervical examination and prostaglandin pessary applied in the posterior fornix (3 mg vaginal tablets, UPJOHN), whereas the control group had a gentle daily cervical examination alone. The study and control group ratio was 1:1.

All patients were examined to determine Bishop scoring by two examiners who were blinded to group assessment. During subsequent examinations if Bishop Score become 8 or the patient reached the forty-second week of pregnancy, the patient was admitted for induction of labor.

All patients received a fetal biophysical profile every 3 days as well as profile after insertion of the prostaglandin pessary. They were sent home from the clinic only if monitoring revealed that their no contractions started after insertion of the pessary. They were instructed to return if they had bleeding, rupture of membranes, fever, or regular uterine contractions. Each subject was also taught how to perform daily fetal movement counts and told to come to labor ward if they had < 10 movements in 12 hours. Chi-square (X^2) and Fisher`s Exact test was used to determine significant statistical difference at 0.05 level.

Results

In the study group, only ten patients (9.7 %) out of one-hundred and three were induced at 42 weeks, nine of them had a normal vaginal delivery, one an instrumental delivery, while ninety three of patients (90.3 %) started spontaneous labor after prostaglandin pessary insertion and normal vaginal delivery. (Table II)

In the control group, seventy-three patients out of one hundred and three (70.9 %) reached 42 weeks of gestation, while thirty patients (29.1 %) developed spontaneous contractions and delivered before 42 weeks.

Fifty-three patients who reached 42 weeks gestation were induced with ARM and Oxytocin infusionwith Bishop Score between 4-5. Meconium staining of liquor has identified in ten patients; three of them had a forceps delivery while the remaining seven managed to have normal vaginal delivery. (Table III)

The remaining 20 patients unfortunately ended by cesarean section for the following indications: six developed fetal distress (late decelerations), one had spontaneous rupture of fetal membranes with a prolapsed cord, 6 malposition of fetal head including brow presentation, and in the last 7 patients, Bishop Score was still 4, thick cervix, they were counseled, all choose to have cesarean section. (Table IV)

Discussion

Prolonged pregnancy, post-date, post-term, postadism are all terms which have been used to denote a pregnancy beyond 42 weeks or 294 days from the first day of last menstrual period (LMP) [(12)].

'Prolonged pregnancy' conveys this sense most accurately and is defined by the international federation of Gynecologists and Obstetricians as any pregnancy, which exceeds 294 days from the first day of LMP [(13)].

The incidence of prolonged pregnancy varies from 3-10 % or more depending on whether it was calculated in a prospective or retrospective manner (in which obviously wrong gestational assessments may have been corrected). Women who have had one previous prolonged pregnancy, and those who have had two previous prolonged pregnancies have 30 % and 40 % chance respectively, of another prolonged pregnancy [(14)]. In centers where women book in the first trimester, and where a dating scan is done in the first half of pregnancy, the incidence of prolonged pregnancy is less than 5% [(15)]. Assessment of dates by early ultrasound has reduced the apparent incidence of prolonged pregnancy by a half to two thirds in many centers [(16)]. The available literature suggests that about 20 % of women cannot remember the date of (LMP) and hence are unsure of their gestational age [(17)]. Prenatal mortality is increased in pregnancies with unknown dates, and some of these deaths may be due to unrecognized cases of prolonged pregnancy. A

high incidence of induction for other reasons (Maternal request) will also reduce the incidence of prolonged pregnancy [16].

The main risk for the mother is that prolonged labor and operative delivery are more common after prolonged pregnancy, some have reported a lower incidence of operative delivery in prolonged pregnancy following spontaneous onset of labor than in induced labor [18], where as others have found no difference [19]. However, conservative management allowing spontaneous onset of labor also appears to be associated with a high rate of operative delivery, so waiting in hope of achieving a vaginal delivery instead of an operative one may not be justified [20].

Retrospective studies indicate that there is an increased risk of perinatal mortality after 42 weeks [21]. In the review of 8038 consecutive post-term pregnancies [22], followed expectantly with twice weekly ante partum surveillance protocol using non-stress tests, amniotic fluid indices and biophysical profile as and when necessary, a fetal mortality rate of 1.12 per 1000 was reported. Of the nine deaths described in the review, one mother was non- compliant and another two had abnormal test results but were not delivered.

The same conclusions were reported by Shepherd J *et al* where prostaglandin vaginal suppositories gave nearly similar results & proved to be a simple& safe approach to induction of labor [22,23,24].

The cause of prolonged pregnancy is not well understood, but most commonly the cervix is unfavorable for induction in these women [8]. If the Bishop score is < 4, the risk of unsuccessful induction and subsequent cesarean section delivery may exceed 50 % [25,26].

Therefore a method to ripen the cervix in women between 41 and 42 weeks who have a low Bishop score should promote more patients to achieve spontaneous labor and fewer unsuccessful inductions at 42 weeks.

Table I. Bishop Score

	0	1	2	3
Dilatation (cm)	0	1-2	3-4	5-6
Effacement %	0-30	40-50	60-70	80
Station	-3	-2	-1 / 0	+1 / -2
Consistency	Firm	Medium	Soft	---
Position	Posterior	Mid	Anterior	---

Table II. Result of all pregnant women:

	Delivered before 42 weeks	**Reached 42 weeks**
Study group (103 patients)	93 (90.3%)	10 (9.7%)
Control group (103 patients)	30 (29.1%)	73 (70.9%)

Table III. Pregnant women who reached 42 weeks:

	C/S	**Induced**
Study group (10)	---	10
Control group (73)	20 (27.4%)	53 (72.6%)

Table IV. Outcome of induced pregnant women who reached 42 weeks:

	Normal vaginal delivery	**Instrumental delivery**
Study group (10)	9 (90%)	1 (10%)
Control group (53)	50 (94.3%)	3 (5.7%)

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