The Professional Medical Journal
www.theprofesional.com

ORIGINAL PROF-2476

INDUCTION OF LABOUR;
ROUTIVE INDUCTION AT 40 WEEKS OF PREGNANCY

Dr. Rabia Sajjad[1], Dr. Asma Ansari[2], Dr. Ayesha Snover[3]

1,2,3
Combined Military Hospital
Attock

Correspondence Address:
Dr. Rabia Sajjad
Combined Military Hospital
Attock
rabia999@ymail.com

Article received on:
21/03/2014
Accepted for publication:
20/09/2014
Received after proof reading:
15/12/2014

ABSTRACT… Objective: The aim of this study to justify induction of labour at 40 weeks of pregnancy in our population. **Design:** Quasi experimental study. **Place and duration:** Combined Military hospital Attock, Obstetric and Gynaecology Department from 1.6.2011 to 1.2.2012. **Material and method:** 100 patients were selected from outpatient department, and divided into two groups, group A, with 50 patients at 40 weeks and group B with 50 patients at 41 weeks. Booked or unbooked patients with singleton pregnancy with cephalic presentation, were selected by non propability consecutive sampling technique. Pregnancy with previous scar, medical disorder, polyhydramnios, multiple fetal and uterine abnormality and intrauterine death, placenta previa, were ruled out excluded from study. Postdate pregnancy was confirmed clinically by last menstrual period and early dating ultrasound. Patients were clinically followed for fundal height, presentations and FHR. Bishop scoring was done and patients were induced mechanically with cervical foley and vaginal pessary PGE2 according to bishop score. Amniotomy was done at bishop score more than 7. Labour was monitored with full protocol. Same procedure was repeated for group B of 50 patients who were selected according to criteria, for induction of labour at 40 weeks of pregnancy. Maternal and fetal outcome was analysed in term of mode of delivery and APGAR score respectively. **Results:** Out of 100 patients, 50 patients with age 20 to 35 year, presenting at 40 weeks were included in group A. Spontaneous vaginal delivery was seen in 30 patients (60%), 4 by vaccum(8%), 3 by forcep delivery (6%), 13 patients ended up into emergency LSCS (26%). In group B of 50 women, planned for induction at 41 weeks, emergency cesareans were 23 (46%). MAS was in 9(18%) babies as compared to 2% in group A and, Fetal distress (type 2 dips) were found in 3(6%) cases. Neonatal outcome was assessed with help of APGAR score. Babies delivered with good APGAR were 47 in group A, as compared to 41 in group B. Rate of vaginal delivery was high in group A (74%) induced at 40 weeks. Results were analysed by using SPSS 10 and p-value was found to 0.024. No difference was found in the incidence of fetal outcome with APGAR SCORE 10, and fewer babies were with poor APGAR SCORE and p=0.051. **Conclusions:** Induction at 40 weeks may reduce perinatal mortality and incidence of MAS. It does not increase risk of caesarean section when compared with induction at or beyond 41 weeks.

Key words: Post date pregnancy, Post term, AFI , Meconium, Macrosomia, Stillbirth, Dating scan

Article Citation: Sajjad R, Ansari A, Snover A. Induction of Labour; Routive Induction at 40 weeks of pregnancy. Professional Med J 2014; 21(6):1078-1081.

INTRODUCTION

Average length of pregnancy is 40 weeks from the last menstrual period. About 80 percent of all pregnancies last 38 to 42weeks. Ten percent of pregnancies go beyond 40 weeks and are called postdate, prolonged, pregnancy[1]. It happens in 3 (12%) but by using earliest scan, it can be reduced to 1(2%)[2].

Use of early USG to calculate gestational age significantly reduces the incidence of post date pregnancy[3]. NICE guidelines on induction of labour also recommend establishment of gestational age by USG, before 16 wks[4]. Postdate pregnancy can be delivered safely in 95% cases 2 but may pose some increased health risks to the woman and baby, 2 Maternal risk with post date pregnancy are increased rate of cesarean, risk of bleeding, infection, and delayed healing[5].

Fetal risks are fetal distress,[2] Macrosomia– a condition in which the baby's weight is more than 4 kg which make labour difficult[6]. Meconium aspiration–a condition in which the baby passes meconium into the amniotic fluid and it gets into the baby's lungs, and it increases risk of Caesarean section, which is more risky for mother than having a vaginal delivery[7]. Others

are Placental insufficiency and reduced AFI, birth asphyxia and shoulder dystocia[8,2]. Perinatal mortality (still birth and neonatal death) increases by 2-3/1000, at 40 week, doubles at 42 weeks, and increase by 4-6 times at 44 weeks[5]. Post maturity syndrome is another complication characterized by reduced subcutaneous fat, scaling, dry skin from placental insufficiency[9]. Post date pregnancy require strict feto maternal monitoring in labor as well as in antenatal period[2].

Following tests are used for fetal assessment

Fetal Kick Count an old but simple test which can be done at home by counting baby's movements once or twice a day. It is normal for baby to have 8 to 10 distinct movements in 12 hours.

Nonstress Test (NST) combined with Amniotic Fluid Index (AFI): For the NST, a fetal monitor is used to check the fetal heart rate. The heart rate of a healthy fetus will increase with fetal movements. AFI is an ultrasound marker which measures the amount of amniotic fluid present as an indication of healthy placenta[10]. When these tests are combined, called a Modified Biophysical Profile and may be done two times per week if it is less than 10/10, deliver the baby[7]. If modified biophysical profile is 10/10, pregnancy may continue and fetomaternal monitoring is done on regular basis[7]. Delivery after 41 weeks is advised because perinatal mortality is higher secondary to progressive uteroplacental insufficiency[5]. These babies show decreased tolerance for asphyxia during intrapartum period.7 Bishop score has very important place and score at time of induction is good predicting factor for mode of delivery[7].

MATERIAL AND METHOD

Total 100 patients were selected and divided in to two groups on basis of gestation , 50 patients at 40 wks in group A, and 50 patients at 41 weeks in group B. Booked or unbooked patients with singleton pregnancy and cephalic presentation were selected by nonpropability consecutive sampling technique. Pregnancy with previous scar, medical disorder, poly hydramnios, multiple fetal abnormality and intrauterine death, and placenta previa were ruled out.

Diagnosis of postdate pregnancy was established by Last menstrual period and early dating ultrasound.

50 patients at 40 weeks in group A, were admitted in labour ward, through obstetrical outpatient department and written informed consent was taken for induction of labour and for inclusion in study. All patients were admitted and informed consent was signed. History regarding patient's age, marital status, obstetrical and gynecological background was taken .Patients were asked about gestational age, fetal movement, vaginal bleeding and any history of dai handling. All women were examined for pallor, blood pressure, pulse, lymph nodes, and thyroid. Detail obstetrical examination for fundal height, fetal heart sound, lie, presentation and engagement of presenting part was done. Bishop score was calculated and adequacy of pelvis was checked. Base line investigation including blood group and Rhesus factor, complete blood and urine examination, hepatitis B and C screening and blood glucose level, were done. Scan for fetal well being was also done to rule out any fetal anomaly.

Bishop scoring was done and patients were induced with cervical Foleys catheter and tablet Prostin E2 according to bishop score.

Amniotomy was done at bishop score more than 7. Labour was monitored with full protocol .Same procedure was repeated for other group of 50 patients in group B, who were selected according to criteria at 41 weeks for induction of labour. Maternal outcome was analysed in term of mode of delivery. Fetal outcome was analysed in term of APGAR score.

RESULTS

Out of 100, in group A, 50 women with age 20 to 35 year, presenting at 40 weeks. 30 women were delivered by Spontaneous vaginal delivery (60%), 4(8%) by vaccum, 3 (6%) by forcep delivery, and 13 patients ended up into emergency LSCS (26%).

In group B of 50 women, at 41 weeks, 20 women were delivered by SVD (40%), IVD (Instrumental vaginal delivery) were 7,5(10%) forcep delivery and 2(4%) were vaccum deliveries. Emergency LSCS was in 23 (46%) women. MAS was in 9(18%) babies and Fetal distress (type 2 dips) was found in 3(6%) cases.

Rate of vaginal delivery was high in group A induced at 40 weeks. Results were analysed by using SPSS 10 and p-value was found to be 0.024.

Fetal outcome in group A, at 40 wks concluded 3 babies (6%) with APGAR score 4, 36 (72%) with APGAR score 10,11 (22%) with APGAR SCORE 8 and 2% babies had MAS.

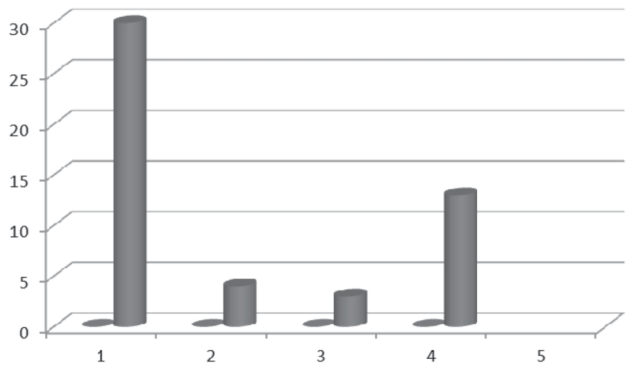

Fig-1. Maternal outcome in group A at 40 weeks
1. *SVD* 2. *Vaccum Delivery*
3. *Forceps Delivery* 4. *Emergency LSCS*

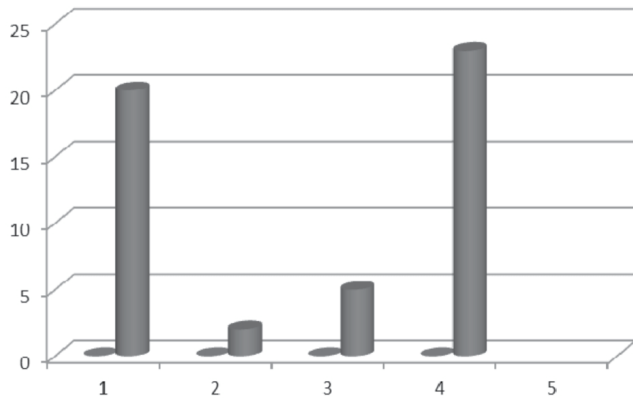

Fig-2. Maternal outcome in group B at 41 weeks
1. *SVD* 2. *Vaccum Delivery*
3. *Forceps Delivery* 4. *Emergency LSCS*

Fetal outcome in group B, at 41 wks showed 36 cases were delivered with APGAR score 10 (72%),9 with APGAR score 4 (18%), and 5 with A/ S 8 (10%).

Data analysis was conducted by using SPSS10, no difference was found in the incidence of fetal outcome with APGAR SCORE 10, and fewer babies were with poor APGAR SCORE and p=0.051.

Mode of delivery	Group A	Group B	P value
SVD Vaccum delivery	37 4	20 2	0.024
Forceps delivery Emergency LSCS	3 13	5 23	

Table-I. Showing mode of delivery in both groups and their P value.

DISCUSSION

Our study clearly indicates the importance of induction of labour at 40 weeks as post date pregnancy itself is associated with serious risk to both mother and baby and consequences associated with post date pregnancy have been mentioned and compared in our study. Rate of normal delivery was higher in group A induced at 40 weeks, as compared to group B induced at 41weeks. Vigilant monitoring required in these pregnancies is also emphasized in our study. Cochrane review abstract in 2006 by Gulmezegulu AM, was done with objective to evaluate the benefits and harms with term or post-term induction compared to spontaneous labour. Outcomes are analysed in two main categories: gestational age and cervical status and it was concluded that there were fewer perinatal deaths in group with induction as compared to group with expectant management. Women induced at 37 to 40 completed weeks were less likely to have a caesarean section than those in the expectant management group. There were fewer babies with meconium aspiration syndrome[11].

Macrosomia was also associated with post date pregnancy and also found in 4 cases in our study. Same observation was made in randomized controlled trial which showed that rates of macrosomia are higher among women with expectant management as compared to the group who was induced[6].

Stillbirth was another worse consequence associated with post date pregnancy although not seen in our results, but it has been emphasized in multiple studies. One retrospective analysis of 171527 notified births in UK revealed 2.3stillbirth/ 1000 birth at post term and 1.9/1000 post term[12].

It was also concluded that rate of stillbirth increased from 0.86/1000 at 40 weeks to 2.12 /1000 at 43 week[13].

Neonatal mortality and morbidity rate doubles from 1.57/1000 at 40 week to 3.71/1000 beyond 40 week[13]. Our study also shows more MAS in group B, induced at 41 weeks.

Fetal and neonatal distress was also mentioned in our study. Twelve babies were delivered with poor APGAR score. It was concluded in a systematic Rev of 19 RCTS that overall risk of perinatal death associated with prolonged pregnancy is small i:e 2-3/1000but relative risk definitely increases[11].

Maternal outcome including cesearean section was reduced in group A who were induced at 40 weeks. Same observation was observed by N Mifsar who suggested that policy of early induction of labor in

Asian women may help to reduce the risk of increased Caesarean delivery[14]. Another RCT showed reduced rate of ceaserean section in group who was induced as compared to group with expectant management[15].

Counseling regarding importance of induction at 40 weeks for getting good maternal and fetal outcomes has vital role in management of postdate pregnancy and it is important to allow women to take decision. In a largest study done in 1991, only 31% women opted for conservative management after counseling[16].

So it is concluded that Induction of labour appears to be an effective way of reducing perinatal morbidity and mortality associated with post-term pregnancies. It should be offered to women with post-term pregnancies after discussing the benefits and risks of induction of labor[6].

CONCLUSIONS

Induction of labour at 40 weeks may reduce perinatal mortality and incidence of MAS .It does not increase risk of Caeserean section when compared with induction at or beyond 41 week.

RECOMMENDATIONS

Excellent communication with patients is key to good outcome:

- Essential to have accurate dating
- Antenatal monitoring by NST, AFI.
- Plan and schedule induction by assessing BISHOP SCORE.

REFERENCES

1. Spong CY. **Defining "term" pregnancy: recommendations from the Defining "Term" Pregnancy Workgroup.** JAMA 2013; 309:2445.

2. Kelly A. Bennett, MD,a,* **First trimester ultrasound screening is effective in reducing post term labor induction rates: A randomized controlled trial.** American Journal of Obstetrics and Gynecology (2004) 190, 1077e81.

3. Crowley P. **Intervention for preventing or improving the outcome of delivery at or beyond term Cochrane database**. Rev 2000;(2):CD000170.

4. NICE guidelines 70. **Induction of labour.** National Collaborating Centre for women,s and children,s health RCOG Press, June 2008.

5. Caughey AB, Musci TJ. **Complications of term pregnancies beyond 37 weeks of gestation.** Obstet Gynecol 2004; 103: 57-62.

6. Abaas A. **Elective induction for pregnancy at or beyond 41 wks of gestation and its impact on stillbirth , A systematic Rev with metanalysis.** BMC Public health 2011,11(suppl)3.s5.

7. James C, George SS, Gaunekar N, Seshadri L. **Management of prolonged pregnancy: a randomized trial of induction of labour and antepartum foetal monitoring.** Nati Med J India 2001;14: 270-3.

8. Nwosu EC, Welch CR ,Manasse PR ,Walkinshaw SA. **Longitudinal assessment of amniotic fluid index.** B r J Obstet gynaecol 1993 ;100:816-19.

9. Tiffany M, Shuman H. **Developmental effects of prolonged pregnancy and the postmaturity syndrome.** The Journal of Pediatric 1977;90:836-39.

10. Khooshideh M,. **The predictive value of ultrasound assessment of amniotic fluid index, biophysical profile score, nonstress test and foetal movement chart for meconium-stained amniotic fluid in prolonged pregnancies.** J Pak Med Assoc.2009 Jul;59(7):471-4.

11. Gulmezogulo AM, Crather CA, Middleton P. **Induction of labour for improvement of both out come for women at or beyond term,** a Cochrane review abstract Rev 2006 :(4):CD oo4945.

12. Smith GC. **Life table analysis of the risk of perinatal death at term and post term in singleton pregnancies.** Am J Gynaecol 2001;184:489-86.

13. Hilder L, Costeloe K, Thilangathan B. **Prolonged pregnancy :evaluating pregnancy specific risks of fetal and infant Mortality.** Br J Obstet Gynaecol 1998;105:169-73.

14. N Misfar, S Wong, PK Sarkar. **Induction of labour for postdate pregnancy in Asian women: outcome analysis Archives of Disease in Childhood-fetal and Neonatal Edition - Arch Dis Child-Fetal Neonatal.** 01/2010; 95(1).

15. Hannah ME, Hannah WJ,. **Induction of labour as compared to serial monitoring in post term pregnancies.** A RCT,The Canadian multicentre post term pregnancy. Trial Group N Engl J Med 1992;326 :1587_92 .

16. Roberts LJ, Young KR. **The management of prolonged pregnancy- an analysis of womens attitude before and after term.** Br J Obstet Gynaecol 1991 ;98:1102-6.