Original Article

Maternal Outcome After Induction of Labour in Postdate Pregnancy

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Abstract

Objective: To achieve evidence-based management strategy favoring intervention reducing fetomaternal complications.
Methodology: This descriptive case series was conducted at the department of gynaecology and obstetrics, Benazir Bhutto Hospital Rawalpindi from February 2015 to August 2015. One Hundred & Twenty patients with postdated pregnancy were admitted along with their demographic, medical and obstetric details. Informed consent was obtained from all the participants. Induction of labour was done at 40+7 wks of gestation with vaginal tablet Prostin repeated at 6 hours (max 3 doses) and followed until delivery.
Results: Mean age of the patients was 25.76 ± 4.07 years. Distribution of parity reveals, 114 patients (95.0%) were para 0-3, while 6 patients (5.0%) were para 4-6. Mean parity was 1.10 ± 1.44.
Gravidity was, 52 patients (43.4%) were primigravida, 55 patients (45.8%) were gravida 2-4 and 13 patients (10.8%) were gravida 5-7. Out of 120 patients, in 76 patients (63.3%) mode of delivery was vaginal delivery and in 44 patients (36.7%) caesarean section was performed. The result shows that prostin significantly reduced the need of cesarean section in postdated pregnancies. (P value that is less than 0.05). These results were analyze on SPSS 21.
Conclusion: Induction of labour in postdate pregnancy with vaginal tablet Prostin 3mg reduces the incidence of cesarean section.
Key words: Postdate pregnancy, Induction of labour, mode of delivery, Prostin.

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Introduction

Pregnancy lasting more than 280days (40wks) is known as postdate pregnancy.[5] It is designated as high risk problem with unknown etiology is considered to be associated with various adverse sequele for both mother and fetus.[3] To minimize fetomaternal complications various obstetric units have devised policy for induction of labour.[9]

Among fetal complications are passage of meconium, meconium aspiration syndrome, macrosomia and dysmaturity. Maternal complications include labour dystocia, perineal lacerations, operative vaginal delivery, increased risk of cesarean section and maternal mortality due to infection PPH, and cesarean section.[4,5]

Incidence of postdate pregnancy is 4-14%.[1] Risk factors include Primiparity, previous postdate pregnancy, male fetus, obesity, genetic

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predisposition, placental sulfatase deficiency, fetal adrenal insufficiency and fetal anomaly.[1] Accurate dating is essential with first trimester USG(CRL) measurement being a reliable method.[4]

Management of postdate pregnancy involves either Induction of labour using pharmacologic methods or no intervention with fetomaternal surveillance.[1,5,6]

A reduced risk of cesarean section and meconium stained liqour has was observed after Induction of labour[1,2,6,7] Daskalakis et al in Jan 2014 found no difference in outcome following IOL or expectant management beyond 41 weeks.[15] Burgos et al in 2012 found that induction of labour at 41wks may increase the rate of caesarean section (14.1% for induction at 41 weeks and 11.4% for induction at 42 weeks).[16] Dobariya PV et al in 2017 found reduced risk of cesarean section in patients undergoing induction of labour with postdate pregnancy as compared to patients with spontaneous labour.[7]

No certain policy has yet been defined so this study to evaluate the effectiveness of IOL at 40+7wks.This study will help to achieve evidence-based management strategy favoring intervention reducing fetomaternal complications.

Methodology

This descriptive case series was conducted in department of obstetrics and gynaecology Benazir Bhutto Hospital Rawalpindi from 18 Feb 2015 to 17 August 2015 after approval from ethical committee of hospital.

A total of 120 patients were selected by convenient sampling technique. Informed consent was obtained was each participant. Patients aged 20-35 years with single alive fetus at 40+7 wks of gestation were included in study. The gestational period was calculated from the history, L.M.P. & Ultrasonography performed on Toshiba Ultrasound scanner. Prior to dispensing the assigned treatment, demographic data, medical and obstetrical history was collected from each and entered on the performa. Induction of labour with Vaginal Tab Prostin 3mg was done at 40+7 weeks of gestation repeated after 6 hrs (3 max doses). Patients were followed up to delivery.

Data was analyzed using the statistical package for social sciences (SPSS version 21). Quantitative variables like age, gestational age and parity was measured by mean ± SD. Qualitative variables like mode of delivery was measured by frequency and percentages and effect modifiers like age of the patient and parity was controlled by stratification. Post-stratification Chi-square test was applied. P value < 0.05 was considered to be significant.

Results

Age of the patients ranged between 20-35. Majority of the patients were between 20-25 years of age and minimum patients were between 31-35 years old.

Distribution of parity reveals, 114 patients (95.0%) were para 0-3 wile 6 patients (5.0%) were para 4-6. Mean parity was 1.10±1.44. Gravidity was as follows: 52 patients (43.4%) were primigravida, 55 patients (45.8%) were gravida 2-4 and 13 patients (10.8%) were gravida 5-7.

Out 120 patients, in 76 patients (63.3%) mode of delivery was vaginal delivery and in 44 patients (36.7%) caesarean section was performed (Table-1).Mean age of the patients was 25.76±4.07 years, mean parity 1.10±1.44 and mean gestational age was 41.1±0.00 weeks .Stratification with regard to age and parity was carried out and presented in Tables III.

Table I: Distribution of cases by outcome.

Outcome	Number	%	Percentage Compared by Chai² Test
Vaginal delivery	76	63.3	P value = < 0.05
Caesarean section	44	36.7	
Total	**120**	**100.0**	

Table II: Descriptive statistics.

Variables	Mean	SD
Age (Year)	25.76 ± 4.07	4.07
Parity	1.10 ± 1.44	1.44
Gestational age	41.1 ± 0.00	0.00

Table III: Stratification with regard to gravidity.					
Gravida	Outcome				Chai² Applied
	Vaginal delivery	Caesarean delivery	Vaginal delivery (in Percentage)	Caesarean delivery (in Percentage)	
Primigravida	20	32	38.46	71.54	P < 0.001
2-4	44	11	80	20	P < 0.001
5-7	12	01	92.30	7.70	P < 0.001

Discussion

Post-term pregnancies are associated with various adverse outcomes. Maternal risks include emergency caesarean section, operative vaginal delivery, cephalopelvic disproportion, cervical tears, perineal lacerations, dystocia, large fetus, fetal death and postpartum hemorrhage. Neonatal risks are asphyxia, aspiration, admission to intensive care unit and fetal trauma.[1,3,7] Postdate pregnancy with unfavourable cervices, can either undergo labour induction or be managed expectantly.[1]

The strategy of Induction of labour in postdate pregnancy results in fewer cases of meconium staining of liqour without increasing the rate of cesarean section.[1,2,7]

With increasing rate of labour induction whether it improves outcome or leads to greater complications is still debated.[9] Randomized, controlled trials suggest that elective induction of labour at 41 weeks of gestation and beyond reduces the risk of meconium staining of liquor and cesarean section.[1,2,7]

Elective labour induction after 41 completed weeks is the main reason for post-term pregnant women hospitalization in VCUH. The evidence-based local medicine protocols suggest inducing labour at and after 41 completed weeks in low risk pregnancies.[1]

Accurate pregnancy dating is important for reducing the false diagnosis of post-term pregnancy.[4] The gestational age is determined by date of last menstural period or first trimester USG.[1,4,7] Although recent data have highlighted the accuracy of first trimester ultrasonography, the variation by ultrasonography generally is ±5 days for 12 weeks.

Due to the evidence-based recommendations encouraging cesarean delivery for a breech presentation and concerns over the safety of a trial of labor for women with a previous cesarean delivery, the greater burden of chronic health risks, such as obesity, diabetes, and hypertension, among women of childbearing age has led to increase in cesarean section rate.[10,12,15]

In current study, the rate of caesarean delivery was 36.7%. According to the study carried out by Arif A the caesarean delivery rate after induction of labour was 15%.[1] Another study by Dobariya PV[7] demonstrated caesarean section rate 14% after induction of labour.

Conclusion

It was concluded from this study, that after induction of labour in postdate pregnancy with vaginal tablet Prostin 3mg reduces the incidence of cesarean section.

Recommendation: Because of less resources the number of subjects is not sufficient. However, the results are significant and leading for a concrete conclusion. Therefore, it is recommended that further of study of such model should be carried out at multi center large group of population.

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