



## STUDY OF POSTDATED PREGNANCY DURING COVID PANDEMIC

## Obstetrics &amp; Gynaecology

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## ABSTRACT

The whole world is helpless now in the pandemic of SAR2. There is only limited experience in the field of management of postdated pregnancy in such a situation, the dilemma is whether to induce non Covid pregnant postdated patients or not. Above all it is difficult to draw a line between Covid19 negative patients who deliver and get admitted in intensive care unit for acute respiratory distress due to obstetrical complications and the patients develop Covid 19 after delivery, admitted with symptoms in intensive care unit. This article we deal with twenty five non Covid postdated pregnant women who got admitted in Karuna Medical College in Kerala during the pandemic period.

The aim of this study is to evaluate the fetal and maternal outcome for a period of four months from March 2020 to June 2020, in the pandemic period of Covid19. Analysis of the literature review deals with the different aspects of postdated pregnancy pertaining to the clinical features and management of challenging issues.

## KEYWORDS

postdated pregnancy, expectant management, covid 19 pandemic.

## INTRODUCTION

Postdated pregnancy is continuation of pregnancy beyond forty weeks. Postterm when the pregnancy is extended beyond 42 weeks (294 days). The etiology of postdated pregnancy is obscure. There are plenty of risk factors like increased BMI[1], previous history of postdated pregnancy, elderly primi, male fetus[2] placental sulphatase deficiency [3] and an anencephalic fetus. Cortisol plays an important role in initiation of labour by its negative effect on the placental progesterone production and a relative decrease, alters the balance and the oxytocin is released which acts on the myometrial contractile system.

The placental amnion, chorion and decidua produce PGE2, PGF2, and CAPS. The gap junction in the myometrial cells helps in contraction. The uterocornual junction is the pace maker.

Among the clinical features of the postdated pregnancy the ominous sign is oligohydramnios. It can be identified by clinical and ultrasound assessment of liquor by a single deepest vertical pocket of amniotic fluid less than 2cm or AFI less than 5cm. It is usually associated with birth asphyxia, fetal distress and leads to caesarean section. [4]

The amniotic fluid changes during pregnancy, initially at 16 weeks it is about 200ml, at 35 weeks 980ml and 800ml at 40 weeks and just 540ml at 42 weeks.[5]

The perinatal mortality increases from 40 weeks of gestation [6] [7]. There is placental insufficiency associated with postdated pregnancy, hence the fetal surveillance in the antenatal period is done by the BPP or modified biophysical profile, NST and AFI, AFI less than 5cm is considered abnormal.[8]

To evaluate the postdated pregnancy fetal outcome the middle cerebral artery Doppler plays a pivotal role. The MCA pulsatility index (PI) and the resistant index (RI) are important in the diagnosis of fetal distress[9]. There is a correlation between utero placental ratio and umbilical artery Doppler with special relation to the postdated pregnancy in a study[10]. But there are contradictory statements also found in the literature says both AFI and MCA Doppler, RI and PI are not of value to evaluate outcome in postdates [11]. There is lack of importance of study of MCA Doppler and AFI in predicting perinatal outcome of prolonged pregnancies.

The diagnosis of postdated pregnancy is confirmed with dating ultrasound scan taken in the early pregnancy and clinical correlation is mandatory. The diagnosis is important in order to avoid iatrogenic

prematurity. The vaginal examination is done to find out if cervix is favorable. Bishop score is significant, in case of maximum score is 13 and out of which any score above six is considered as favorable.

The main indication for induction of labour is postdated pregnancy. For induction the ripening of cervix is done by PGE2 gel and oxytocin [12]. Induction is also done with 25mcgm of oral or vaginal misoprostol.[13] If the cervix admits one finger stripping of the membranes is done initially which seems to be beneficial. Even a foleys catheter is used for mechanical dilatation of the cervix.

Normally routine induction is offered after 41 completed weeks especially if any obstetric risk is present otherwise expectant management is chosen.[14]

There are a number of fetal complications related to postdated pregnancy includes IUGR, stillbirth, macrosomia, increase in perinatal morbidity due to birth asphyxia, low apgar score, meconium aspiration, shoulder dystocia, birth injury, increased instrumental delivery, caesarian section and increased admission in ICU.

There are maternal complications like increased rate of induction, prolonged labour, instrumental delivery, caesarian delivery.[15]

Finally the million dollar question is whether labour should be induced or expectant management is advisable for post term pregnancy.[16]

The study insists on labour induction at 41 weeks of gestation for uncomplicated pregnancy to reduce the rate of caesarian section

Another study [17] supports the idea of induction of labour at 42 weeks. Same idea is stressed upon in another study. [18]

There are certain recommendations given by the author which seems to be implemented normally in normal circumstances; a routine induction or expectant management can be offered.[19]

Another article says that 80.3% of patients preferred expectant management in post dated pregnancies.[20] It is puzzle regarding the right time to induce labour. A Swedish study throws light on this fact.[21]

## STUDY SETTING

Study setting site was KARUNA MEDICAL COLLEGE HOSPITAL

in Kerala for a short period of four months from March 2020 to June 30th. Study design: a description design. The sample size of the study consist of 25 postdated pregnancies

**SAMPLE SELECTION INCLUSION CRITERIA**

- 1) Patients who are sure of dates .No recent use of OCP prior to LMP
- 2) Regular history of menstrual period and well documented LMP selected
- 3) EDD confirmed by 1<sup>st</sup> trimester USG
- 4) Singleton pregnancy
- 5) Cephalic presentation
- 6) Unscarred uterus

**EXCLUSION CRITERIA**

- 1) No USG taken in early pregnancy for dating
- 2) Chromosomal abnormality
- 3) Congenital abnormality
- 4) Twin pregnancy
- 5) IUGR
- 6) Patient conceiving during lactation amenorrhea
- 7) Obstetric complications like Eclampsia, abruption placenta, placenta previa, BOH, Previous LSCS, twin pregnancy.
- 8) Medical complications like cardiac, hypertension, diabetic, thyroid disease.

Informed consent was taken when the patient attended the antenatal checkup and on admission. A detailed obstetric examination was done after getting a detailed history and physical examination. After completion of 40weeks NST was done USG Doppler study was done. The fetal biometry, presentation and liquor volume were noted,. The pregnancy was carried safely with NST and Modified BPP till 41 weeks. Then two of the patients carried to 42weeks by assessing AFI and NST. The fetal umbilical artery and Middle cerebral artery PI and RI were studied by Doppler.

The complete information of treatment discussed with the patient and caretaker about the risk and benefits of induction versus expectant management as per guidelines and protocol during times of pandemic. A vigilant close observation thanks to Doppler, modified BPP and monitoring, opted for expectant management. The results were analyzed by software SPSS version.

**RESULTS**

Among the total number of deliveries in the past three months from March to June 25. Patients were postdated. In our hospital 10.33 % Post dated pregnancy. The Percentage of patients admitted for labour, 84% patients had a normal Vaginal delivery .

- 0 % had forceps delivery
- 0% had vacuum delivery
- 16 % had LSCS. The indication for LSCS
- 20% Fetal distress
- 8% meconium stained liquor
- 10 % Cervical dystocia.

All the patients had Doppler study. Doppler study showed normal AFI 80% AFI reduced in 16 %  
 RI normal in 100 % of patients  
 PI normal in 100% of patients  
 Showed in the table.

**Table 1: Age Incidence**

Age group	Frequency n=25	Percentage
<20	4	16
20-29	20	80
30-39	0	0

**Table 2 : Parity Of The Patient**

Gravida	Frequency n=25	Percentage
Primi	11	44
Multigravida	14	56

**Table 3: Duration Of Pregnancy**

>	Frequency	Percentage
>40	23	92
>41	02	08
>42	00	00
>43	00	00

**Table 4 : Antenatal Checkup**

ANC Checkup	Frequency(n=25)	percentage
Regular	25	100
Irregular	00	00
No checkup	00	00

**Table 5 : Usg Fetal Biometry**

BPD	Frequency(n=25)	Percentage
96-98	2	8.0
93-95	8	32.0
90-92	7	28.0
>90	8	32.0

**Table 6 : Liquor Amount**

	AFI	RI	PI
Normal	20	25	25
Increased	1	0	0
Reduced	4	0	0

**Table 7: Mode Of Delivery**

Normal	21	84.0
Forceps	0	0.0
Vaccum	0	0.0
LSCS	4	16.0

**Table 8: Perinatal Outcome Number %**

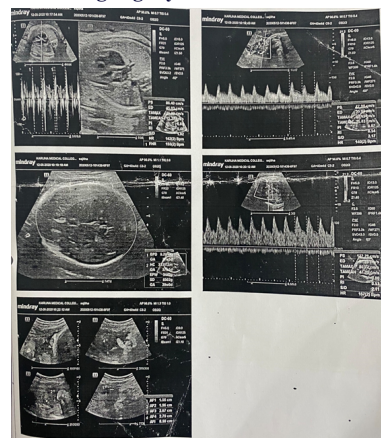
IUFD	0	0.0
NICU	1	4.0
Perinatal death	0	0.0

**Table 9 : Apgar Score Of Neonates**

APGAR	Frequency(n=25)	percentage
4-7	1	4
More than 7	24	96
Socioeconomic class	Frequency(9n=25)	percentage
Upper	5	20.0
Middle	20	80.0
Lower	0	0.0



**Figure 1 AFI showing oligohydramnios**



**Figure 2 Normal Doppler**

## CONCLUSION

A lot is not known about the considerations for obstetric case in postdated pregnancy. With our limited experience during such pandemic the best obstetric care was offered and operative delivery was reserved only for obstetric indications. As there is no definite treatment no vaccine and no herd immunity Covid19, the only solution was social distancing. We along with our colleagues, paramedical staff, nurses and our fellow residents and other staff our hospital able to manage our postdated pregnant in complex situation.

It is frustrating to the state that the management of patient care in postdated pregnancy is still clouded and it is amplified further by the COVID 19 pandemic, compounded by the absence of vaccine and herd immunity. We stick to the specific guidelines laid down. We adhere to the expectant management in low risk postdated pregnancy in a stressful anxiety state. We follow a pragmatic approach and each case has to be individualized.

## REFERENCE

1. Pre-pregnancy body mass index and length of gestation at term Naomi Stotland A. Eugene Washington Aaron Caughey <https://doi.org/10.1016/j.ajog.2006.10.366>
2. Male gender predisposes to prolongation of pregnancy MY Divon, A Ferber, H Nisell, M Westgren - American journal of obstetrics ..., 2002 – Elsevier <https://doi.org/10.1067/mob.2002.126645>
3. Genetic influence on prolonged gestation: A population-based Danish twin study ☆ Author links open overlay panel Maja Laursen Msc Camilla Bille Mda Annette WOllesenMD,PhDbJacobHjelmborgMSc, Ph DaAxel SkytttheMSc, Ph DaKaare Christensen MD, PhDa <https://doi.org/10.1016/j.ajog.2003.08.036>
4. Akhter, P., Sultana, M., Hoque, M., Sultata, S., Khatun, M. R., & Dabee, S. (2015). Maternal Outcome of Prolonged Pregnancy. Journal of Bangladesh College of Physicians and Surgeons, 32(2), 66-70. <https://doi.org/10.3329/jbcp.v32i2.26033>
5. FETOMATERNAL OUTCOME FOLLOWING POSTDATE PREGNANCY : A PROSPECTIVE STUDY <https://iog.org.in/index.php/iog/article/view/55>
6. Agrawal, S., Patidar, A., & Kumar, S. (2020). FETOMATERNAL OUTCOME IN POSTDATED PREGNANCY: A RETROSPECTIVE STUDY. International Journal of Medical and Biomedical Studies, 4(6). <https://doi.org/10.32553/ijmbs.v4i6.1168>
7. Akhter, P., Sultana, M., Hoque, M., Sultata, S., Khatun, M. R., & Dabee, S. (2015). Maternal Outcome of Prolonged Pregnancy. Journal of Bangladesh College of Physicians and Surgeons, 32(2), 66-70
7. Health resource utilization of labor induction versus expectant management. <https://www.sciencedirect.com/science/article/abs/pii/S000293782030003X>
8. A Study of Maternal and Fetal Outcome in Postdate Pregnancy <https://pdfs.semanticscholar.org/58c0/a5d9549d00bda0ef060fd4cc7eaf05d6ee29.pdf>
9. To study the maternal and fetal outcome in pregnancy beyond 40 weeks <http://www.gynaecologyjournal.com/articles/513/4-2-4-897.pdf>
10. Correlation between Cerebroplacental ratio and umbilical artery Doppler with pregnancy outcome in postdates. [https://journals.ekb.eg/article\\_73820.html](https://journals.ekb.eg/article_73820.html)
11. Lack of Importance of Studying Middle Cerebral Artery Doppler and Amniotic Fluid Index in Prediction of Perinatal Outcome of Prolonged Pregnancies. <https://www.jresearchvalley.com/articles/lack-of-importance-of-studying-middle-cerebral-artery-doppler-and-amniotic-fluid-index-in-prediction-of-perinatal-outcome-of-prolo.pdf>
12. [https://www.researchgate.net/profile/UrvashiVerma3/publication/313847805\\_The\\_study\\_of\\_maternal\\_and\\_perinatal\\_outcome\\_in\\_prolonged\\_pregnancy/links/5909ec38aca272f658012844/The-study-of-maternal-and-perinatal-outcome-in-prolonged-pregnancy.pdf](https://www.researchgate.net/profile/UrvashiVerma3/publication/313847805_The_study_of_maternal_and_perinatal_outcome_in_prolonged_pregnancy/links/5909ec38aca272f658012844/The-study-of-maternal-and-perinatal-outcome-in-prolonged-pregnancy.pdf)
13. Different methods for the induction of labour in postterm pregnancy]. <https://europepmc.org/article/med/22056188>
14. Guidelines for the management of postterm pregnancy. <https://www.degruyter.com/view/journals/jpme/38/2/article-p111.xml>
15. Labor induction versus expectant management for postterm pregnancies: a systematic review with meta-analysis. <https://www.sciencedirect.com/science/article/abs/pii/S0029784403003429>
16. Witter FR, Weitz CM. A randomized trial of induction at 42 weeks gestation versus expectant management for postdates pregnancies. Am J Perinatol. 1987;4(3):206-211. doi:10.1055/s-2007-999774 <https://pubmed.ncbi.nlm.nih.gov/3300672/#:~:text=As%20expectant%20management%20did%20not,as%20it%20improves%20infant%20outcome.>
17. K. Mahomed, K. Pungsomruk, K. Gibbons. (2016) Induction of labour for postdates in nulliparous women with uncomplicated pregnancy – is the caesarean section rate really lower?. Journal of Obstetrics and Gynaecology 36:7, pages 916-920. <https://www.tandfonline.com/doi/abs/10.1080/00016340802555948>
18. Journal of Perinatal Medicine | Volume 38: Issue 2 Guidelines for the management of postterm pregnancy GiampaoloMandrizzato 1, ZarkoAlfirevic 2, Frank Chervenak 3, Amos Gruenebaum 4, RunaHeimstad 5, SeppoHeinonen 6, Malcolm Levene 7, Kjell Salvesen 5, Ola Saugstad 8, Daniel Skupski 9, and Baskaran Thilaganathan 10 <https://www.degruyter.com/view/journals/jpme/38/2/article-p111.xml>
19. What women want and why. Women's preferences for induction of labour or expectant management in late-term pregnancy Author links open overlay panelJ. K.J. KeulenabP.T.NieuwkerkC.J.C.KortekaasD.J.vanDillendB.W.MoleJ.A.M.van der PostA.E. de Mirandaa. <https://www.sciencedirect.com/science/article/abs/pii/S1871519220302110>
20. When is the right time to induce labour? [http://orcid.org/0000-0002-8603-621XMeeraGarrigal1,Jannekevan'tHooft2.https://ebm.bmj.com/content/early/2020/03/16/bmjebm-2019-111330?int\\_source=ebm&int\\_medium=referral&int\\_campaign=verdictrighttimeinducelabour](http://orcid.org/0000-0002-8603-621XMeeraGarrigal1,Jannekevan'tHooft2.https://ebm.bmj.com/content/early/2020/03/16/bmjebm-2019-111330?int_source=ebm&int_medium=referral&int_campaign=verdictrighttimeinducelabour)
21. Am J Perinatol. 2020 Jun; 37(8): 773–779 .Published online 2020 Apr 17. doi: 10.1055/s-0040-1710051 PMCID: PMC7356077 PMID: 32303077 Considerations for Obstetric Care during the COVID-19 Pandemic Sarah K. Dotters-Katz, MD, MMPHE1 and Brenna L. Hughes, MD, MSc1 Author information Article notes Copyright and License information Disclaimer