

One-Year Review Of Reduced Fetal Movements In Izzat Ali Shah MCH Center: A Predictor Of Poor Perinatal Outcome

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Abstract

Objectives: To find out common causes of reduced fetal movements. The purpose is to reduce perinatal morbidity and mortality.

Methodology: This Prospective, Observational study was conducted at Izzat Ali Shah Maternal and child health center, unit III Gynae, Wah medical college Wah Cantt, from January 2019 to December 2019. A total of participants 160, who presented in the antenatal outpatient or emergency department with reduced fetal movements, were included in the study. Patients in the active phase of labor were excluded from the study. Patients were followed up till delivery. All necessary information, investigations, and examination points were noted on the predesigned proforma. Data were analyzed by using SPSS version 22.

Results: Out of a total of 160 patients, 144 had alive and stable babies. Regarding the age group, out of 160, six patients were teenagers (3.75%), 98 (61.25%) were between 20-30 years, and 55(34.3%) were in the age group of 30-40 years. Regarding gestational age at presentation, 27 out of 160(16.8%) were between 30-35 weeks, 133(83.12%) was at 36-40 weeks. None of the patients presented below 30 weeks. Concerning the number of pregnancy, primigravida 82(51.25%), 60(37.5%) were multigravida, and 18 (11.25%) was grand multipara. Regarding medical history, anemia was seen in 31 patients (19.37%), pregnancy-induced hypertension in 20(12.5%), and 65 % (104) has no significant medical history. Concerning past obstetrical history, 107(66.8%) fell under low-risk pregnancies, 18(11.25%) had previously normal deliveries but 08(05%) patients had H/O still births. Regarding placental position, 71(44.37%) had anterior, 71(44.37%) had posterior, and 18 (11.25) had fundal placenta. Regarding UAD, 136(85%) had normal umbilical artery Doppler, 13(8.12%) had altered, 06(3.75%) were Absent and 05 (3.12%) has reversed end diastolic flow. During study, 78(48.7%) had normal AFI, 69(43.12%) has Oligohydramnios, 10(6.25%) anhydramnios, while only 03(1.87%) had polyhydramnios. Regarding birth weight, 122(76.25%) had average weight, 32(20%) were low birth weight and 05(3.12%) were very low birth weight. 61(38.12%) went into NICU, while 99(61.8%) no admission required.

Conclusion: Most common risk factor or cause of reduced fetal movements was reduced liquor, (79). Out of which 69 remained alive and stable after birth, while 15 had early neonatal deaths. The second cause found was abnormal umbilical artery Doppler,(24). Out of which, 14 had early neonatal deaths and intrauterine deaths. This study showed the increased obligation of care required by patients with decreased fetal movement. Although the number of live births is more as compared to demise, it results in increased neonatal unit admission rates, higher induction and cesarean section rates, higher surveillance demands, and an increased financial burden on parents. It signifies the need for more vigilance in this area of practice. But we can't neglect the perception of a mother. Mother's feelings are more important than any other test.

Keywords: Fetal movement, perinatal outcome, Stillbirth, intrauterine growth restriction.

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1. Introduction

Maternal perception of fetal movement is considered the principal sign of fetal well-being. Movement for the first time is called 'quickening' and starts during the 18th-20th gestational week.¹ No approved guidelines are available regarding the frequency of observed fetal movements.^{2, 3} No specific definition for decreased fetal movements has been formulated yet. Some define it as absent fetal movements for a 12-hour duration; termed a "movement alarm signal (MAS)". Some define it as less than 10 fetal movements in a 24-hour duration. Decreased fetal movements can result in stillbirth, fetal growth

restriction, placental insufficiency, and congenital malformations.⁴

Most patients are counseled about observation for decreased fetal movements and report to the hospital or obstetrician when such a situation arises.⁵ Women's observation of reduced fetal movements should be noted and acknowledged in the woman's health care records.⁶ Prevalence of decreased fetal movements is observed in 5-15% of pregnancies.⁷

The risk of perinatal mortality and morbidity rates continuously rises throughout the pregnancy. Prompt recognition, assessment and referral to a suitable clinical setup can help reduce such problems.^{8, 9} Detailed histories of risk factors and previous history of stillbirth along with a complete

evaluation of fetal well-being in the form of a biophysical profile (BPP), estimated fetal weight (EFW), and Doppler assessment of umbilical artery should be done.

We normally offer induction of labor, grounded on the postulation that we might have overlooked pathology, and the fetus faces undue compromise. By initiating artificial labor, we do not expose the fetus to the risk of iatrogenic prematurity.¹⁰ Several patients present in our OPD and emergency ward with complaints of reduced fetal movements. In this study, we want to identify the common risk factors responsible for RFM in our setup. So, their timely visions can be made. The purpose is to reduce perinatal morbidity and mortality.

Maternal awareness about fetal movement is a basic screening method for fetal well-being, as this can lead to many drastic effects and fetal outcomes. Maternal and obstetrician alertness for any such occurrence should be taken seriously to prevent any such outcomes. Educating expecting mothers about fetal movements can be greatly reassuring to expecting women.

2. Materials & Methods

This observational, prospective study was conducted in the Department of Obstetrics and Gynaecology, Izzat Ali shah maternal and child health center, unit III (Gynae) affiliated with Wah medical college, Wah Cantt. The duration of the study was from January 2019-Dec 2019, being approved by the college ethical committee. The total participants were 160, who presented in OPD or emergency ward with reduced fetal movements were included in the study. Patients in the active phase of labor were excluded from the study. The duration of pregnancy was from the date of quickening till the onset of labor. Patients were counseled, and written informed consent was obtained from each patient before participation in the study.

The selected patients were subjected to a detailed history of current pregnancy, previous obstetric and medical history, drug and addiction, and nutritional history. The duration of the complaints was noted. All relevant investigations were performed after indoor admission. All pieces of information were written in a predesigned proforma. Statistical analysis was performed on SPSS Software version 21.

3. Results

Out of a total of 160 patients, 144 had alive and stable babies, while 16 early neonatal and intrauterine deaths were noted. Regarding the age group, out of 160, six patients were teenagers (3.75%), 98 (61.25%) were between 20-30 years, and 55(34.3%) were in the age group of 30-40 years. Only 01 patient (0.62%) was >40 years. Regarding gestational age at presentation, 27 out of 160(16.8%) were between 30-35 weeks, 133(83.12%) was at 36-40 weeks. None of the patients presented below 30 weeks. Concerning the number of pregnancies, the maximum number of patients were primigravida, 82(51.25%), 60(37.5%) multigravida, and 18 (11.25%) grand multipara. Regarding medical history, anemia was found in 31 patients (19.37%), pregnancy-induced hypertension in 20(12.5%), and 65 % (104) has no significant medical history. Concerning past obstetrical history, 107(66.8%) fell under low-risk pregnancies, 18(11.25%) had previously normal deliveries but 08(05%) patients had H/O still births. Regarding placental position, 71(44.37%) had anterior, 71(44.37%) had posterior, and 18 (11.25) had fundal placenta. Regarding UAD, 136(85%) had normal umbilical artery Doppler, 13(8.12%) had altered, 06(3.75%) were Absent and 05 (3.12%) has reversed end diastolic flow. P- value was > 0.05 which is considered not significant. During study, 78(48.7%) had normal AFI, 69(43.12%) has Oligohydramnios, 10(6.25%) anhydramnios, while only 03(1.87%) had polyhydramnios. The P-Value was < 0.05 which is considered significant. Regarding birth weight, 122(76.25%) had average weight, 32(20%) were low birth weight and 05 (3.12%) were very low birth weight. The P-value was < 0.05 which is considered significant. 61(38.12%) went into NICU, while 99(61.8%) no admission required.

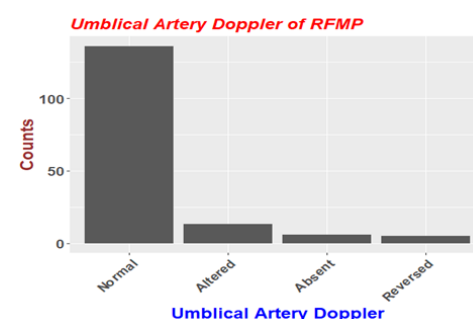


Figure-1 Frequency of umbilical artery Doppler abnormalities

Table-1 Frequency of medical disorders in patients with RFM

Previous Medical Hx	Frequency	%age
Anemia	31	19.37
Asthmatic	01	0.62
GDM	01	0.62
GDM+PIH	02	1.25
Hypothyroidism	01	0.62
NIL	104	0.00
PIH	20	12.5
Grand Total	160	100

3. Discussion

Reduced fetal movements (RFM) are the commonest cause of hospital visits for pregnant mothers. Prevalence of RFM is 15 % of pregnancies, and 6.1 % of emergency presenting obstetrics patients. 55% of stillbirths have been previously reported as reduced fetal movements. ⁽¹¹⁾ Our study presents a prospective assessment of women presenting with RFM in pregnancy. It provides a complete review of their management, presentation, and subsequent pregnancy outcome. Concomitantly, we observed a higher number of primiparous women (51.25%) presenting with RFM. This is almost the same as in most international studies. ⁽¹¹⁾

Primigravida usually young, are not aware of the normal routine of fetal movements. They become worried even with some minor issues. But we can't neglect their concern just because of the first pregnancy. We have to give respect to every complaint. It has been observed that these patients have a high induction rate, but similar cesarean section rate or neonatal unit admission rates. First pregnancy after the age of 35 is also associated with increased anxiety in patients and families. In our study, only 06 patents were above 35. Common factors responsible

for the perception of fetal movements include early gestation and maternal stress. ⁽¹²⁾ Stress may be related due to extremes of age, first pregnancy, and previous bad obstetric history. Prediction of reduced fetal movements outcome without recognized anomaly is difficult to predict. ⁽¹³⁾

The location of the placenta is also an important factor. The anterior placenta is considered responsible for reduced perception. ⁽⁴⁾ In our observation, both anterior and posteriorly placed placenta were noted in equal numbers. It doesn't mean that we should not look for other risk factors if we find an anterior placenta. The anteriorly attached placenta is just a physiological cause. However, we can blame the placental position after excluding other risk factors and completing the assessment. Reduced fetal movements can result in children born small for gestational age. It has been suggested that skilled medical professionals should not educate patients about reduced fetal movements. Based on AFFIRM study ⁽¹⁴⁾, stillbirth frequency was reduced from 4.40/1000 to 4.06/1000 in the intervention group, the p-value was not significant, while rates of induction of labor and cesarean section were elevated in the intervention group. The same has been observed in our study. A total of 70 emergencies, 23 elective cesarean sections, and 68 inductions were performed. Out of 160, 144 remained stable with good Apgar scores, 14 early neonatal deaths, and two stillbirths.

Regarding birth weight data in our study, 122 neonates have average birth weight while 32 and 05 have low birth weight and very low birth weight respectively. Decreased fetal movements increased antenatal clinic visits. ^(15, 16) During the third trimester, the reported rate of reduced fetal movements ranges between 6-15 percent. ⁽¹⁷⁾ Of Patients presenting with RFM; 71 percent required care once only, 23 percent two times, and four percent three times or more. In a few patients, a compromised fetus or intrauterine fetal death is detected ^(17, 18) However, in the majority of the patients, no irregularity is found and the women can go after a complete assessment of the fetus. ⁽¹⁹⁾ It was also observed in our study, two patients came with reduced fetal movements, and fetuses were found

dead on arrival. Out of 160, 144 remained stable. Some patients have multiple visits to antenatal clinics. It will not only increase the anxiety of the mothers but also have a financial impact on the family. The rate of unnecessary interventions is increased, resulting in high cesarean sections. This may become an unavoidable situation for healthcare providers to intervene in a normal pregnancy. ^{(20),(21)}

Umbilical artery Doppler studies and amniotic fluid index are the two most sensitive tests performed on every patient with RFM. In our study, 136 patients (85%) had normal UAD with the forward flow, out of which, only one patient had ENND, 03 in absent UAD, and 05 ENND in reversed UAD group respectively. Although the number of neonatal losses is very low in the normal group, we can't take it for granted that fetus is behaving well with normal UAD. Regarding AFI, 63(39.3%) patients with oligohydramnios had stable neonates at birth and 08 patients had ENND. Seven ENNDs were noted in the hydramnios group which is quite a big number. A mother's perception is more important than any other test.

We are receiving a lot of patients from different hospitals with RFM. We have our local management guidelines for such patients, which are the same as those practiced in other tertiary care centers. According to the Swedish National Board of Health and Welfare, fetal movement detailed history & CTG help evaluate the patient. Ultrasound may be required after a detailed assessment. According to RCOG and NBHW guidelines; repeated hospital visits may be required for each new episode of decreased fetal movements.

5. Conclusion

Ambiguity in diagnosing patients with decreased fetal movements without any antenatal deformity. There is an increased obligation of care required by patients with decreased fetal movement. It results in a high neonatal admission rate, higher induction & cesarean section rate and increases+ the financial burden on parents. It signifies the need for more vigilance in this area of practice. But we can't neglect the perception of a mother. Mother's feelings are more important than any other test.

CONFLICTS OF INTEREST- None

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Potential competing interests: None to report

Contributions:

H.R, F.S - Conception of study

H.R, G.S, A.N, N.M, F.S - Experimentation/Study conduction

H.R, G.S, A.N - Analysis/Interpretation/Discussion

H.R, G.S, A.N - Manuscript Writing

N.M, S.R - Critical Review

H.R, G.S, A.N, N.M, F.S, S.R - Facilitation and Material analysis

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