

A retrospective study on high risk pregnancy and their outcome in a teaching hospital in South India

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Abstract

Back ground: High risk pregnancies constitute about 15% of the pregnancies in our country which has adverse impact on mother and child survival. This study was an attempt to find out the different probable outcome in a high risk pregnant women.

Objectives: To enlist the categories of high risk pregnancies and to record their outcome.

Methods: Study design: Retrospective study. Information was collected from hospital case records of high risk deliveries that took place from January 2008 to December 2008 in a teaching hospital in south India. A total of 648 high risk case sheets were analysed.

Results: Of 1106 case records analysed, there were 648 cases of high risk deliveries and found that 161 were preterm deliveries, 150 cases were post dated, 120 cases of previous caesarian section, 90 cases of eclampsia, 49 cases of pre eclampsia. Outcomes of the deliveries are: Only one maternal death recorded and 207 babies born with low birth weight, 81 needed NICU care, and 30 had fetal complication, 24 Intra Uterine Deaths, 11 still births and one congenital anomaly.

Conclusion: There were few complication noted in the high risk pregnancies which could have been prevented through good antenatal care.

Key words: High risk pregnancy, low birth weight, eclampsia, pre-eclampsia, , Intrauterine deaths, still births.

Introduction

In our country 24 million pregnancies occurs every year out of which 15% of the cases are high risk pregnancies. Of this 15% cases of high risk pregnancies their outcome cannot be predicted for both mother and new born [1].

A woman with high risk pregnancy needs close monitoring regarding antenatal visits (frequent visits are needed based on the case), blood tests and scanning. The prognosis depends largely on specific conditions. Hence this study was done s was done to find out the various types of risks that developed in the pregnant women and the outcome of these pregnancies and nature of intervention given to them.

Methods

A Retrospective study of case records was

done in a teaching hospital in South India from medical records department of the hospital of all deliveries conducted during the period of one year i.e from Jan 2008 to Dec 2008.. The study tool was a pre-designed proforma . Data was collected regarding maternal characteristics (age, height and medical – disorders), common antenatal complications (pre-eclampsia, eclampsia, gestational diabetes), Delivery details (previous caesarian sections, pre-term deliveries, post-dated deliveries, post-partum hemorrhages) and neonatal outcomes (birth-weight, admission to NICU, still-birth, IUD's, congenital abnormalities and fetal complications).The operational definition of High risk pregnancy in this study was defined as the conditions that put the mother and the developing fetus or both at a higher

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risk than normal for any complications arising during antepartum, intrapartum or postpartum period.

Results

Table 1 shows month wise distribution of deliveries, there were total of 1106 deliveries conducted during January 2008 to December 2008. A total of 648 high risk pregnancy cases were attended. The highest number of deliveries of high risk pregnancies are recorded in the month of September (10.3%).

Table 2 shows the obstetrical cases which includes the age of the mothers. 2 cases were below the age of 17years and 17.8% above 30years, of these; 2 cases were 40 and 41years respectively. 7 cases were 37 years old. 35 cases were short statured measuring below 145 cms.120 cases had previous caesarian sections.

Among those with pre-existing maternal diseases; 23(3.5%) had anaemia, 23(3.5%) respiratory diseases, 19(2.9%) pregnancy induced gestational diabetes, 06(0.9%)Ante partum hemorrhage

followed by 04 (0.6%) cardiac cases.

Pre-eclampsia and eclampsia constituted for 49(7.56%) 90(14%) respectively of the cases with hypertension. Other cases included 79(12.1%) hydramnios and 17(2.6%) twins.

There were 161(25%) pre-term deliveries and 150 (23.1%) post- term deliveries.

Table 3 shows interventions done for high risk pregnancy cases. There were instrument assisted deliveries like 19(2.7%) by vacuum extraction, 19(2.7%) by forceps followed by 17(2.3%) vaginal breech deliveries. 412(62.1%) underwent caesarian sections which had both elective and emergency indications.

Figure1. shows the distribution of outcomes of high risk pregnancies. There were 1187 live births. Among these 207(31.9%) delivered low birth weight babies, 87(13.4%) were admitted to NICU, 30(4.62%) had fetal complications, 24(3.7%) had intra-uterine deaths, 11(1.6%) had still births 1 (0.15%) had congenital anomaly and maternal death each.

Table 1. Month -wise distribution of deliveries (admissions) in the year 2008

| Month | Normal deliveries | | High Risk deliveries | | Total | |
|-----------|-------------------|-----|----------------------|------|-------|------|
| | No | % | No | % | No | % |
| January | 49 | 4.4 | 54 | 8.3 | 103 | 9.3 |
| February | 38 | 3.4 | 61 | 9.4 | 99 | 8.9 |
| March | 30 | 2.7 | 43 | 6.6 | 73 | 6.6 |
| April | 34 | 3.1 | 60 | 9.2 | 94 | 8.4 |
| May | 65 | 5.9 | 50 | 7.7 | 115 | 10.3 |
| June | 42 | 3.7 | 53 | 8.1 | 95 | 8.5 |
| July | 18 | 1.6 | 61 | 9.4 | 79 | 7.1 |
| August | 41 | 3.7 | 50 | 7.7 | 91 | 8.2 |
| September | 33 | 3.0 | 67 | 10.3 | 100 | 9.0 |
| October | 35 | 3.1 | 57 | 8.7 | 92 | 8.3 |
| November | 25 | 2.2 | 60 | 9.2 | 85 | 7.6 |
| December | 48 | 4.3 | 32 | 4.9 | 80 | 7.2 |
| Total | 458 | 100 | 648 | 100 | 1106 | 100 |

Table 2. Distribution of the high risk Obstetrical cases

| Maternal Characteristic | No | % |
|--|-----------|----------|
| Age (yrs) | | |
| <18years | 02 | 0.30 |
| >30 years | 112 | 17.2 |
| Short stature | 35 | 5.4 |
| Pre-existing health conditions | | |
| Anaemia | 23 | 3.5 |
| Respiratory disease | 23 | 3.5 |
| Pregnancy induced conditions | | |
| Gestational diabetes | 19 | 2.7 |
| Cardiac disease | 04 | 0.6 |
| Ante partum hemorrhage | 06 | 0.9 |
| Pre-eclampsia | 49 | 7.5 |
| Eclampsia | 90 | 14 |
| Others | | |
| Hydramnios {Including Poly-hydramnios and Oligohydramnios} | 79 | 12.1 |
| Twins | 17 | 2.6 |
| Previous Caesarian Section | 120 | 18.2 |
| Pre-term (<37 weeks) | 161 | 25 |
| Post-term (>or= 42 weeks) | 150 | 23.1 |

Table 3. Interventions for high risk pregnancies at the hospital

| Interventions | No | % |
|---|-----------|----------|
| Vacuum extraction | 19 | 2.7 |
| Forceps | 19 | 2.7 |
| Vaginal Breech | 17 | 2.3 |
| Caesarian-Section {Both Elective and Emergency} | 412 | 62.1 |

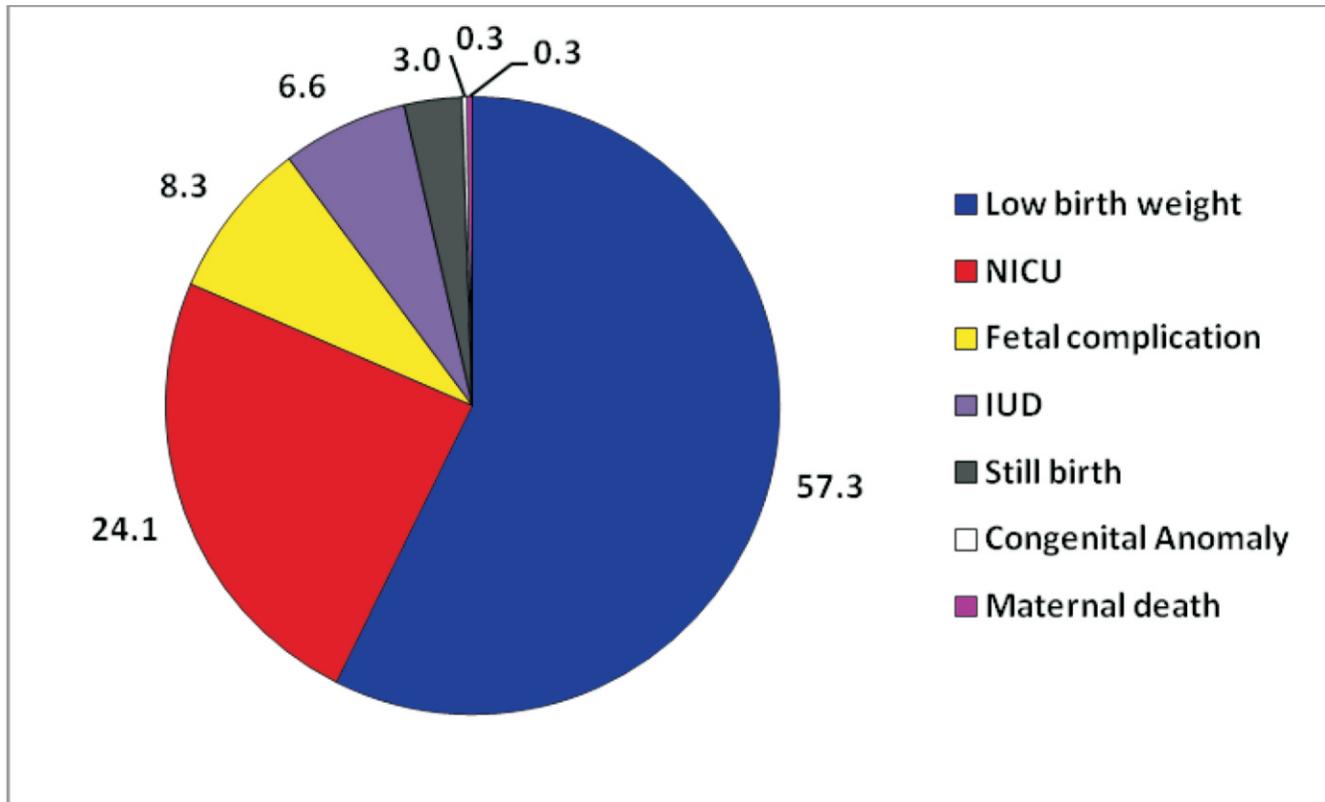


Figure 1. Distribution of outcomes of high risk pregnancies

Discussion

As this Centre was a tertiary care hospital, most of these cases were referred from smaller hospitals for their services. This could explain the higher numbers of high risk pregnancies as compared to normal deliveries.

The information from case record analysis showed that there was a higher percentage of posted dated deliveries (23.1%), pre-term deliveries (25%), followed by eclampsia (14%) and pre-eclampsia (7.5%). Outcome of these cases included one maternal death and one child with low birth weight, intra-uterine death, admission to NICU, still birth, fetal complications and congenital anomaly. Studies including all the above factors are limited in literature. In a study done by A Kumar *et al* [2] showed women with Hemoglobin less than 7gms% with parity greater than 3 showed a higher rate of pre-term deliveries. D.V. Mavalankar [3] showed a strong association between material height & weight for pre-

term and babies with low birth weight. Micheal *et al* in their study showed that pre-eclampsia subjects experienced more pre-term deliveries. Priti Agarwal *et al* [4] in their study have shown the relationship between anaemia and preterm deliveries. Deshmukh JS *et al* [5] in their study found that anaemia, LSCS, short stature, short birth interval were significant risk factors for LBW. Moujaral Hoque and Shahnaz Hoque [6] found that eclampsia was the risk factor in association with pre term {OR=6.14 95%CI 3.74;10.09} and low birth weight {OR=3.40,95%CI 83;6.28}. Mohammed N Barakat *et al* [7] -observed significantly higher risk of caesarian delivery among women with gestational diabetes {OR=2.70, 95%CI, CI=1.17-4.03} and post gestational diabetes mellitus {OR- 4.39, 95% CI 1.68-11.49}. Rashid M *et al* in their study showed that post dated pregnancies increase the chances of fetal distress, macrosomnia and meconium staining.

Conclusion

From our data analysis we found that mothers with high risk factors like previous sections, twins, anaemia, short-stature pregnant mothers need intense monitoring. Ante natal visits have to be more frequent with regular health education sessions are necessary in order to prevent antepartum and postpartum complications.

Limitations

As this was a retrospective study performed using case sheets from medical records, information regarding the number of antenatal visits, family income and the details of investigations done were lacking. We are aware of these limitations. Further studies including all the above factors have to be assessed.

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