

Increased Risk of Preterm Labour in Younger Pregnant Females

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ABSTRACT

Objective: To determine the risk of preterm birth in anemic pregnant females.

Study Design: Retrospective study

Place and Duration of Study: This study was conducted at the Department of Gynecology and Obstetrics, National Hospital Sargodha from January 2011 to March 2012.

Materials and Methods: A retrospective study was done on 220 women who attended the Gynecology and Obstetrics Department of National Hospital Sargodha for antenatal evaluation. Record of all the patients was examined. Among these 220 pregnant women, 84 were admitted with the complaint of preterm labor. The admitted patients were assessed according to ACOG criteria. They were managed according to the standard protocol. Their Hb level was determined. Gestational age was calculated and preterm pregnancy was confirmed by scan.

Results: There were 84 women who admitted with the complaint of preterm labor. Out of these, 31(36.9%) were in true labor and delivered. Rest of them was in threatened labor and managed accordingly. Among these women who were admitted with preterm labor, 46 were anemic. Associated maternal risk factors and pregnancy complication were also determined.

Conclusion: It is concluded from this study that preterm labor associated with preterm birth is more prevalent in anemic pregnant females.

Key Words: Preterm birth, Preterm labor, Anemia

INTRODUCTION

Preterm labor is the onset of regular uterine contractions accompanied by the cervical changes after the 20th weeks of gestation and before the 37 completed weeks of pregnancy. It usually precedes the preterm birth which is one of the major problems during the reproductive age.^{1, 2} Preterm birth denotes the delivery that occurs at more than 20 and less than 37 weeks of gestational age.³ The incidence of preterm birth is still rising in certain populations of the world.⁴ This increase incidence has diverted the attention of the researchers to evaluate its various aspects. Various factors like the local decreased concentration of the progesterone, initiation of the oxytocin and deviation from the normal fetal growth are proposed to be responsible for this problem.⁵ Anemia is one of the leading causes of the preterm birth. It denotes the decreased level of the hemoglobin.⁶ Literature review reveals variable rate of the prevalence of anemia during pregnancy ranging from 33% to 75%.⁷ WHO has recommended the value of 11.0g/dl as the cut off value for the definition of the anemia during pregnancy.⁸ The causes of anemia include the genetic factors, nutritional deficiency and the infections.⁹ Among the nutritional factors, iron deficiency remains the most important cause of anemia in pregnancy because of the physiological changes associated with the pregnancy.

MATERIALS AND METHODS

All of the 84 women who were admitted with the preterm labor to the Gynecology and Obstetrics Department of National Hospital Sargodha from January 2011 to March 2012 was included in this study.

Data was collected retrospectively from the admission charts. Preterm labor was confirmed for every patient according to ACOG criteria which labeled the patient having preterm labor if the patient had 4 contractions in 20 minutes or 8 in 60 minutes in addition to progressive changes in the cervix and cervical dilatation more than 1 cm with cervical effacement of 80 percent or more¹⁰. The management of the admitted patients was done according to the standard protocol. The presence of maternal risk factors associated with preterm birth such as anemia, hypertension, diabetes, asthma, and infectious diseases was determined. The hemoglobin level was checked by the spectrophotometer. The data was entered and analyzed by using SPSS- 11.

RESULTS

During the time period from January 2011 to March 2012, total number of the patients who attended the Gynecology and Obstetrics Department of National Hospital Sargodha was 220. Out of this 84 were admitted with the preterm labor. They were categorized into various groups according to their hemoglobin level (Table 1) and their gestational age (Table 2).

Table No.1: Maternal risk factors for preterm birth (n=84)

Maternal factors	No. of patients
Hypertension	17 (20.2%)
Diabetes	7(8.3)
Hepatitis B	7(8.3)
Hepatitis C	3(3.5)
PROM	19(22.6)
Anemia	31(36.9)

Table No.2: Distribution of anemia

Subject	Frequency	Percentage
Total anemic	157	71.36
Preterm birth	84	53.5
Preterm threatened labor	23	14.6
Normal	50	31.8

DISCUSSION

Preterm birth is the one of the major problems of the world. The incidence is remaining constant over the past decades in the developed countries but it is still rising in the underdeveloped countries. Advances in the maternal, fetal and neonatal management has decreased the incidence of preterm birth and has promoted the concept of preterm delivery of the high risk pregnancy.^{11, 12}

In this retrospective study, we included 220 women who attended to the Gynecology and Obstetrics Department of National Hospital Sargodha January 2011 to March 2012. Out of these, 157 women were found to be anemic. Anemia denotes the decreased level of hemoglobin. Despite the advances in the scientific and economic fields, anemia is still prevalent. The pregnant women are mostly affected because of the increased demand during pregnancy.¹³

In the present study, the incidence of preterm births among these anemic patients was determined. They were assessed according to ACOG criteria for preterm labor. It was found that women were in true preterm labor and no therapeutic measure taken proved to be successful to stop the preterm delivery. Reports are available in the literature which shows that the frequency of contractions in patients who end with preterm delivery is relatively more.¹⁴ However reports are available which show that in addition to preterm labor, maternal and fetal indications also lead to preterm birth.^{15, 16}

CONCLUSION

It is concluded from this study that preterm birth is more prevalent in anemic pregnant females. The development of preterm labor even in the absence of cervical changes should be considered as a potential risk for preterm birth. More emphasis is required for the correction of the anemia to reduce the prevalence of preterm birth.

REFERENCES

1. Cunningham FG, Lenovo KG, Bloom SL, Haut JC, Rouse DJ, Spong CY. Preterm birth. William Ostetrics. New York: MC Graw – Hill; 2010.p. 804-831.
2. Iams JD, Creasy RK. Preterm labor and delivery. In: Creasy RK, Resnik R, Iams JD, editors.

Maternal fetal Medicines. Phidelphia: WB Saunders; 2004.p.623-662.

3. Jahromi BN, Salarian L, Shiravani Z. Maternal Risk Factors and Neonatal Outcomes of the Admitted Patients for Preterm Spontaneous Uterine Contractions. Iran Red Crescent Med J 2011;13 (12):877-883.
4. Goldenberg RL, Culhane JF, Iams JD, Romero R. Epidemiology and causes of preterm birth. Lancet 2008;371:75-84.
5. Svigos JM, Robinson JS, Vignesvam R. Threatened and actual preterm labor including mode of delivery. In: James DK, Weiner CP Steer PJ, Gonik B, editors. High risk pregnancy: managemant options. Philadelphia: Elsevier Saunders; 2006.p.1304-1320.
6. Montoyo Romero JD, Castelazo M, Valerrio E. Review by expert group in the diagnosis and treatment of anemia in pregnant women. Gynecol Obstet Mex 2012;80:563-80.
7. Yi SW, Han YJ, Ohrr H. Anemia before pregnancy and risk of preterm birth, low birth weight and small for gestational age birth in Korean women. Eur J Clin Nutr. 2013, 10 : 1038.
8. Cao and Brien Ko. Pregnancy and iron homeostasis: an update. Nutr Rev. 2013.71: 35 – 51.
9. Breyman C. Current aspects of diagnosis and therapy of iron deficiency anemia in pregnancy. Schweiz Rundsch Med Prax 2001;90:1281-1293.
10. ACOG practice bulletin. Management of preterm labor. Int J Gynecol Obstet 2003;82:127-135.
11. Green NS, Damus K, Simpson JL, Iams J, Reece EA, Hobel CJ, et al, March of Dimes Scientific Advisory Committee On Prematurity Research agenda for preterm birth: recommendations from the March of Dimes. Am J Obstet Gynecol 2005;193:626–35.
12. Ananth CV, Joseph KS, Oyelese Y, Demissie K, Vintzileos AM. Trends in preterm birth and perinatal mortality among singletons: United States, 1989 through 2000. Obstet Gynecol 2005; 105:1084–91.
13. Friedman AJ, Chen Z. and Ford P. Iron deficiency anemia in women across the life span. J Womens Health 2012;21:1282-9.
14. Buchmayer SM, Sparen P, Cnattingius S. Previous pregnancy loss: risks related to severity of preterm delivery. Am J Obstet Gynecol 2004;191:1225–31.
15. Spong CY. Prediction and prevention of recurrent spontaneous preterm birth. Obstet Gynecol.2007; 110:405–15.
16. Goncalves LF, Chiaworapongsa T, Romero R. Intrauterine infection and prematurity. Ment Retard Dev Disabil Res Rev 2002;8:3–13.

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