ORIGINAL ARTICLE

Risk Factors and Acute Complications of Small for Gestational Age Term Newborns

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ABSTRACT

Aim: To describe the risk factors in the mothers which could contribute to the SGA babies and acute complications in SGA babies.

Methods: This descriptive study was carried out in the Departments of Obstetrics and Paediatric Medicine, Nishtar Hospital, Multan from March 2013 to December 2013. A total of 50 small for gestational age full term newborns were included in the study.

Result: The results of study showed that the percentage of SGA was 6.5% with male to female ratio of 1.1:1. And 72% SGA babies in this study were asymmetrical. Most common risk factors present in the mothers of SGA babies were malnutrition (52%), pregnancy at the extremes of age (72%) and a short inter-pregnancy interval (<1 year) 46.7%. Lack of antenatal care visits and hypertensive disease of pregnancy were present in 42% mothers in each and majority of mothers of SGA babies belonged to low socioeconomic status (68%).

Conclusion: The most common complications developed in the SGA babies were hypothermia, perinatal asphyxia, hypoxic ischemic encephalopathy and hypocalcaemia.

Keywords: Small for gestational age (SGA), Malnutrition, Low birth weight.

INTRODUCTION

Many descriptive terms were proposed from time to time to characterize the group of infants who have impaired fetal growth; these include pseudo premature, small for dates, dysmature and fetal malnourished, chronic fetal distress, intrauterine growth retardation (IUGR), hypotrophic and small for gestational age (SGA)[1]. SGA has been defined as infant having birth weight less than 10th centile for gestation[2]. There are no present or old large population based birth weight normograms available for Pakistani population. In Pakistan we used Colorado growth chart produced by Lubchenco et al[3]. In Pakistan 10-25% of newborns may be full term SGA and most are asymmetrical[4]. The mortality rate for babies who are SGA is 9 times higher than those of appropriate for gestational age (AGA)[5].

Causes of low birth weight are multifactorial with genetic, placental, fetal and maternal factors interplaying with each other. A strong correlation exists between birth weight and maternal height, weight, age, antenatal care visits and risk status at pregnancy[6]. Malnourished mothers face potential complications in childbirth and the likelihood of low birth weight babies[7]. More than 40% of Pakistani pregnant women are anemic and give birth to SGA babies. The incidence of low birth weight babies in these women is as high as 25%[8].

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METHODOLOGY

This descriptive study was carried out in the Department of Obstetrics and Paediatric Medicine, Nishtar Hospital, Multan from March 2013 to December 2013. A total of 50 small for gestational age full term newborns were included in the study.

RESULTS

Out of 50 patients, 27 (54%) were male and 23 (46%) were female. Out of 50 SGA babies, 36 (72%) were asymmetrical. Majority of patients belonged of low socio-economic status. According to weight of mother 34(68%) mothers were ≤50 kg. 38(76%) mothers of SGA babies had height ≤150cm. Hypertension was present in 21(42%) mother of SGA babies. Other results are shown in the form of following tables.

Table 1: Age of mothers of SGA babies

Age (yrs)	No. of SGA babies	%age
< 20	20	40
20-30	14	28
>30	16	32

Table-2: Parity of mothers of SGA babies

Parity	No. of SGA babies	%age
Primigravida	20	40
G-2-5	16	32
G >5	14	28

Table 3: Nutritional status of mothers of SGA babies

Status (BMI)	No. of SGA babies	%age
<19.8	26	52
19.8-26	20	40
>26	04	08

Table 4: Acute complications of SGA babies

Complications	Cases	%age
Perinatal asphyxia	13	26
HIE	11	22
MAS	06	12
Hypothermia	20	40
Hypoglycemia	09	18
Polycythemia	06	12
Thrombocytopenia	04	08
Infection	06	12

DISCUSSION

In the present study, most of the babies were asymmetrical SGA, this is supported in the literature that most of the SGA in Pakistan are asymmetrical[4]. Results of this study showed that 34(68%) mothers gave birth to SGA babies belonged to poor socio-economic status. Almost similar results were obtained by another study[9]. As malnutrition was concerned it was found that 26(52%) SGA babies were born to underweight, malnourished mothers having BMI < 19.8. This is favored by Hasan[10] in his study that 49% of all small for dates babies were born to mothers with overt features of malnutrition. Another study at USA showed that the risk of having children with low birth weight was also higher in women with a body mass index less than 20[11].

Despite the provision of free medical facilities, only 14(28%) mothers of SGA babies had a regular antenatal check up, possibly due to the fact that most of the mothers belonged to rural areas and most of them were uneducated, not realizing the significance of antenatal care. 15(30%) mothers had occasionally visited for antenatal check up ranging from one to three times, mostly in the third trimester. Another 21 (42%) mothers of SGA babies had no visits during pregnancy and reported at the time of labor. Study by Manzoor et al[12] showed that only 17.7% of pregnant women receive antenatal care from doctors and 75% go to none of this purpose. Previous obstetrical history is also important. In this study 31(62%) mothers had not given the history of previous SGA baby. This high percentage of cases with no previous history of SGA baby was due to the fact that 40% mothers were primigravida. Rest of 19(38%) mothers had previous history of one or more LBW delivery indicating that bad obstetrical history is also an important risk factor of SGA newborns. This is also recognized in a study. The results of this study have shown that lack of antenatal care and history of previous SGA baby are independent risk factors[13].

Out of 50 SGA babies, hypertensive disease of pregnancy was present in 21(42%) mothers of these babies. These results are also supported in the literature that pre-eclampsia or other types of hypertensive diseases are present in between a third and a half of pregnancies with IUGR[14].

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