

Case Report of Fetal Macrosomia with Birth Weight 6.25 kg: A Rare Encounter

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ABSTRACT

Newborn weight exceeding 4000 g or 4500 g is considered as macrosomia, incidence of which varies from 6 to 10% of all deliveries. Maternal diabetes, obesity, age >35 years, male baby, history of previous macrosomia, multiparity are few risk factors. It is associated with several maternal and neonatal complications and presents an obstetric challenge as there is no consensus regarding the most appropriate route of delivery for macrosomic baby. We report a rare case of fetal macrosomia with birth weight of 6.25 kg delivered by cesarean section to 39 years old woman at 38 weeks 6 days period of gestation.

Keywords

Grandmulti, macrosomia, , perineal injury, postpartum hemorrhage, shoulder dystocia

INTRODUCTION

The term macrosomia is used to describe a baby with birth weight exceeding the 90th percentile for a given gestational week.¹ Newborn weight exceeding 4000 g is widely used as the threshold for macrosomia.¹ Its incidence varies from 6 to 10% of all deliveries depending on race, ethnicity and genetic factors.¹ Deliveries of macrosomic babies, though not commonly encountered, possess obstetric challenge as it is associated with high perinatal morbidity and mortality along with maternal morbidity in terms of genital tract trauma and postpartum haemorrhage.² Despite our awareness of its complications clinical prediction of large babies is mostly inaccurate and ultrasound estimation of birth weight is less valid in predicting the weight of large fetuses than small, preterm fetuses.³ We report a case of baby boy with birth weight more than double of mean birth weight (3.05±0.41 kg) determined in a study done in medical college of Nepal.⁴

CASE PRESENTATION

Mrs Limbu 39 years, residing at Kathmandu, originally from Jumla, arrived Tribhuvan University Teaching hospital (TUTH) labour room in active stage of labour at four cm dilatation at 38 weeks 6 days period



Fig 1. Macrosomic baby of 6.25 kg birth weight

of gestation. After waiting for 4 hours caesarean section was done for non-progress of labour beyond 4 cm with suspected big baby clinically. She delivered a baby boy weighing 6.25 kg, length 61 cm and head circumference 38 cm (Figure 1) born with APGAR score of 7/10, 8/10 and placenta weighed 1 kg. His mother was a booked case of TUTH with regular antenatal visits with previous three uneventful normal deliveries at home. The birth weights of previous babies were 5 kg, 4 kg and 4.5 kg respectively but whether complicated by gestational diabetes mellitus or not was not known as she had not done any antenatal checkups in all previous pregnancies. Her body mass index was 32.7 kg/m² and random sugar was raised this time but glucose challenge test and fasting and postprandial sugar were normal.

The newborn baby didn't show any evidence of hypoglycemia on screening and was given to mother side after 2 hours of life. The baby was however transferred to neonatal unit on 3rd day due to tachypnoea and later diagnosed and treated for congenital pneumonia. There were no other neonatal complications. He was managed and discharged after 8 days of admission on 11th day of life in healthy condition.

DISCUSSION

Birth weight is determined by genetic, racial and ethnic factors. Hispanic women have a higher risk of fetal macrosomia as they have a higher incidence of diabetes in pregnancy.⁵ Among different populations of the same country, birth weight also differs according to the ethnic group. In a study conducted in Nepal, birth weight of the newborn was significantly higher in the Sherpa/Tamang community than the Brahman chhetri community.⁶ Our patient also belonged to the Sherpa/Tamang community.

There are several risk factors associated with macrosomia. Maternal diabetes is the strongest risk factor that results in two to three fold

increase in the risk.^{3,4,5,7} Other risk factors include maternal obesity, age >35, male baby, history of previous macrosomia, prolonged pregnancy and multiparity.^{5,8,9} One study showed that maternal age older than 35 was three times higher, the history of previous macrosomic baby was ten times higher and the rate of grandmultiparity was three times higher in the macrosomic birth group than the non-macrosomic control group. These risk factors were also present in our patient. Despite the identification and characterization of risk factors, no combination of these risk factors can predict macrosomia accurately.² In addition, clinical examination and ultrasonographic examination cannot exclude or confirm the possibility of macrosomia with sufficient specificity and sensitivity; hence, an accurate diagnosis of macrosomia can only be made by weighing the newborn after birth and depending only on the fetal ultrasound for estimation of fetal weight can lead to unnecessary obstetrical intervention.^{3,7,8}

Macrosomic babies have a higher frequency of birth traumas such as clavicular fracture, brachial plexus injury, shoulder dystocia as well as more birth asphyxia. In addition, there are risks of hypoglycemia, polycythemia and electrolyte disturbances also. In the mother, there are increased chances of genital laceration, caesarean section, uterine atony and postpartum hemorrhage.^{2,5,8,9}

Evidence suggests that suspected macrosomia is not an indication for induction or for primary cesarean delivery among uncomplicated pregnancies. However, for pregnancies complicated by diabetes, with a prior cesarean delivery or shoulder dystocia, delivery of a macrosomic fetus increases the rate of complications, hence justifying elective cesarean delivery.¹⁰ The threshold of estimated fetal weight that should prompt cesarean delivery is still controversial. The American College of Obstetricians and Gynecologists has concluded that scheduled cesarean birth may be beneficial for newborns with suspected macrosomia who

have an estimated fetal weight of at least 5000 g in women without diabetes and an estimated fetal weight of at least 4500 g in women with diabetes.⁷ Most of the time, the decision is individualized depending upon the estimated birth weight (both ultrasonography and clinical), maternal profile and obstetricians clinical decision. In this patient big baby was anticipated with the presence of risk factors of macrosomia and clinical examination but vaginal delivery was awaited for few hours after spontaneous labour with 4 cm dilatation on arrival because of previous history of uneventful vaginal deliveries of big babies' upto 5 kg. Timely decision of caesarean section after no signs of progression prevented the possible complications in both mother and baby. Thus obstetricians clinical decision has pivotal role in managing macrosomia along with maternal profile and the estimated birth weight (both ultrasonography and clinical).

CONCLUSION

Though macrosomia is not common in our country we should be aware of it and thoroughly evaluate while predicting birth weight antenatally especially when several risk factors are present in mother so that adverse complications of both mother and baby can be prevented by proper management.

CONSENT

Informed consent was taken from the mother for posting the photograph of new born.

CONFLICT OF INTEREST

None declared.

REFERENCES

1. Usta A, Usta CS, Yildiz A et al. Frequency of fetal macrosomia and the associated risk factors in pregnancies without gestational diabetes mellitus. *Pan Afr Med J.* 2017;26.
2. Haji ET, Kazemi H and Kordi M. Prevalence and outcome of the macrosomic infants. *Acta Medica Iranica*, 45(6): 505-509; 2007.
3. Bajracharya J, Shrestha NS, Karki C. Accuracy of Prediction of Birth Weight by Fetal Ultrasound. *Kathmandu Univ Med J* 2012;38(2):74-76.
4. Manandhar K, Manandhar DS, Baral MR. One year follow up study of term babies born at Kathmandu medical college teaching hospital. *Kathmandu Univ Med J.* 2004 Oct 1;2(4):286-90.
5. Najafian M, Cheraghi M. Occurrence of fetal macrosomia rate and its maternal and neonatal complications: a 5-year cohort study. *Int Sch Res Notices.* 2012; 2012.
6. Upadhyay S, Biccha RP, Sherpa MT et al. Association between maternal body mass index and the birth weight of Neonates. *Nepal Med Coll J* 2011; 13(1): 42-45
7. Committee on Practice Bulletins-Obstetrics. Macrosomia: ACOG Practice Bulletin, Number 216. *Obstet Gynecol.* 2020;135(1):e18-35.
8. Al-Wazzan RM, Sarsam SD. Fetal macrosomia maternal and perinatal Outcome. *Al-Kindy Col Med J.* 2011;7:50-55.
9. Ezegwui HU, Ikeako LC, Egbuji C. Fetal macrosomia: obstetric outcome of 311 cases in UNTH, Enugu, Nigeria. *Niger. J. Clin. Pract.* 2011;14(3):322-6.
10. Chauhan SP, Grobman WA, Gherman RA et al. Suspicion and treatment of the macrosomic fetus: A review. *Am. J. Obstet. Gynecol.* (2005) 193, 332–46