



ORIGINAL ARTICLE

Foetal Outcome of among Women Presented with Fetal Head Engagement: Experience of 1440 Cases in Bangladesh

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Abstract

Background: Foetal outcome is a great concern among the primigravida women presented with fetal head engagement. **Objectives:** The purpose of the present study was to see foetal outcome among the women presented with fetal head engagement. **Methodology:** This descriptive cohort study was carried out in the Department of Gynecology and Obstetrics at Sir Salimullah Medical College and Mitford Hospital, Dhaka from June 2006 to December 2006 for a period of six (6) months. Primigravida women with 38 or more weeks of pregnancy having single foetus with cephalic presentation were selected as study population. Foetal outcome was measured in terms of APGAR score. **Result:** A total number of 1440 pregnant women were recruited for this study. In this study the APGAR score of all the babies were good. APGAR score were low in 12 cases and returned to normal after resuscitation. Out of 262 engaged cases 7 to 10 APGAR score was found in 261(99.6%) cases. In 1178 unengaged cases 7 to 10 APGAR score was found in 1167(99.1%) cases. APGAR score 4 to 6 was found in 1 case and 11 cases in engaged and unengaged group. However, 0 to 3 APGAR score was not reported in engaged and unengaged group. There was no statistical significant between the engaged and unengaged group considering the APGAR score of 7 to 10 and 4 to 6 ($p=0.374$). **Conclusion:** In conclusion fetal outcome is not significantly different between the engaged and unengaged pregnant women during considering the APGAR score. [*Journal of Current and Advance Medical Research 2018;5(1):29-32*]

Keywords: Foetal Outcome; APGAR score; engaged pregnant women; unengaged pregnant women; labour

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Introduction

Lower rate of engagement of foetal head before labour is very important issue. It has been reported that the incidence of cephalo-pelvic disproportion is different in different age group¹. Engagement of foetal head depends upon the size of the foetal head as well as the maternal pelvis; however, it is also influenced by pelvic inclination, race and ethnic group². It has been postulated that if the inclination of the pelvic inlet becomes greater with narrow sagittal diameter of pelvic inlet, it delays in engagement of the foetal head³.

Traditionally it has been seen that engagement of fetal head is said to take place usually by 36 weeks of gestation and this should remain well engaged onwards⁴. Engagement has been defined as passage of biparietal diameter of fetal skull through the plane of the pelvic inlet. It has been also said that when the greatest horizontal plane the biparietal has passed the plane of the pelvic brim, the head is said to be engaged⁵. The sign of a high head at term in primigravidae is not a good sign and calls for investigation as to possible causes. Certainly many obstetricians take a pessimistic attitude towards eventual vaginal delivery, if the foetal head is not engaged at the onset of labour⁶.

On per vaginal examination lower pole of the unmolded head is usually at or below the level of the ischial spines⁴. The distance between the pelvic inlet and ischial spines is about 5 cm. Lateral view radiography on standing position is confirmatory. In this situation the monitoring of fetal outcome is essential during delivery. The primigravida women are more vulnerable during delivery. It needs close and meticulous observation by examining the APGAR score among the fetus after delivery. In this context this present study was undertaken to see foetal outcome among the women presented with fetal head engagement.

Methodology

This descriptive cohort study was carried out in the Department of Gynecology and Obstetrics at Sir Salimullah Medical College and Mitford Hospital, Dhaka. This study was conducted from June 2006 to December 2006 for a period of six (6) months. Sir Salimullah Medical College is a 500 bedded tertiary care teaching hospital situated in the heart of the old Dhaka city. This is one of the oldest hospitals in the Dhaka. Primaigravida women with 38 or more weeks of pregnancy having single foetus with cephalic presentation were selected as study

population. Details history, clinical examination and relevant investigations were performed and were recorded in a predesigned data collection sheet. Proper engagement of the foetal head was assessed by the rule of 5. When 2/5 or less became palpable abdominally, it was labeled as engaged. All the patients were managed actively and were monitored by close and careful observation.

A partograph was filled and was recorded for each patient. Total duration of labour from beginning of phase was recorded. Foetal outcome was measured in terms of APGAR score at 5 minutes, incidence of resuscitation, incidence of admission in neonatal unit, incidence of intubation, ventilation and perinatal mortality. Birth weights were recorded immediately after delivery. Subsequently foetal head circumferences were measured and recorded. Data collected from each individual subject were compiled and analyzed using computer based software, the Statistical Package for Social Science (SPSS).

Result

A total number of 1440 pregnant women were recruited for this study. Highest incidence was found in the age group 21 to 24 years. Maximum numbers of women were within the age group of 17 to 24 years which was 1258(87.4%) and the rest were belonging to the age group 25 to 32 years which was 182(12.6%) cases (Table 1).

Table 1: Age Distribution among the Study Population (n=1440)

| Age Group | Frequency | Percentage |
|----------------|-------------|--------------|
| 17 to 24 Years | 1258 | 87.4 |
| 25 to 32 Years | 182 | 12.6 |
| Total | 1440 | 100.0 |

In this study the APGAR score of all the babies were good. APGAR score were low in 12 case and returned to normal after resuscitation. Out of 262 engaged cases 7 to 10 APGAR score was found in 261(99.6%) cases. In 1178 unengaged cases 7 to 10 APGAR score was found in 1167(99.1%) cases. APGAR score 4 to 6 was found in 1 case and 11 cases in engaged and unengaged group. However, 0 to 3 APGAR score was not reported in engaged and unengaged group. There was no statistical significant between the engaged and unengaged group considering the APGAR score of 7 to 10 and 4 to 6 ($p=0.374$) (Table 2).

Table 2: Distribution of Foetal Outcome among the Study Population (n=1440)

| APGAR Score | Engaged | Un-engaged | Total |
|--------------|-------------------|--------------------|--------------------|
| 7 to 10 | 261(99.6) | 1167(99.1) | 1428(99.) |
| 4 to 6 | 1(0.4) | 11(0.9) | 12(0.8) |
| 0 to 3 | 0(0.0) | 00(0.0) | 00(0.0) |
| Total | 262(100.0) | 1178(100.0) | 1440(100.0) |

The chi-square statistic was 0.7906. The p-value was >0.05 (Not significant); Parenthesis within bracket indicates percentage

Discussion

The concept held by obstetrician and stated in standard text books is that foetal head engages in this maternal pelvis in the last four weeks of pregnancy⁷. That does not happen one should suspect certain problems. Obstetricians generally feel that unengaged head in a primigravida at the onset of labour always calls for careful re-evaluation of the whole cephalo-pelvic interrelationship⁸.

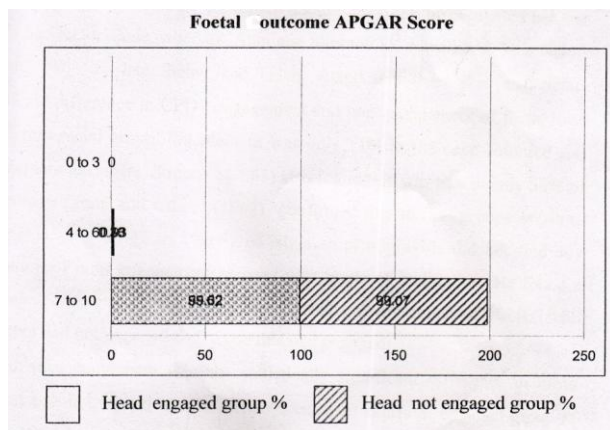


Figure I: Showing the Faetal APGAR Score among the Engaed and non-engaed

A total number of 1440 pregnant women were recruited for this study. Highest incidence was found in the age group 21 to 24 years. Maximum numbers of women were within the age group of 17 to 24 years which was 1258(87.4%) and the rest were belonging to the age group 25 to 32 years which was 182(12.6%) cases. There was statistically significant difference in CPD, engagement and non engagement of foetal head is different racial group⁹. However Brigg⁷ in a study of Nigerian primigravida did not find any correlation of non-engagement of head with angle of inclination and found a significant difference between the mean head circumference of babies

with heads that had not engaged and those that had engaged.

In this study the APGAR score of all the babies were good. APGAR score were low in 12 case and returned to normal alter resuscitation. Out of 262 engaged cases 7 to 10 APGAR score was found in 261(99.6%) cases. In 1178 unengaged cases 7 to 10 APGAR score was found in 1167(99.1%) cases. APGAR score 4 to 6 was found in 1 case and 11 cases in engaged and unengaged group. However, 0 to 3 APGAR score was not reported in engaged and unengaged group. There was no statistical significant between the engaged and unengaged group considering the APGAR score of 7 to 10 and 4 to 6 (p=0.374). These results indicate that the fetal outcome is good in both engaged and non-engaged group. The diagnosis of disproportion, except the gross ones, can not be confidently made unless the patient is in labour and uterine action is adequate. It was observed that the duration of labour is significantly higher with non-engaged group as opposed to the engaged group. The finding is similar to the Endings of Jafarey.

There was no major fetal complication in these cases. The APGAR Score of all the babies were good except two in non-engaged group whose score returned to normal after resuscitation. There was no perinatal death in these study women. Although many obstetricians believe that nulliparous patients present mostly with engaged fetal heads in active labour¹⁰, this study and others indicate that most nulliparous patients present with an unengaged fetal head in active labour. This finding allows the clinician to be more optimistic regarding vaginal delivery of nulliparous patients who present with an unengaged vertex in active phase of labour and avoid hasty decisions toward cesarean delivery¹¹. The results of this study have provided further evidence that abdominal palpation of the fetal head is an important component in the evaluation of women undergoing labour, since the prediction of successful vaginal delivery is more with abdominal criteria. Hence, in nulliparous patients a high station at the onset of labour is not necessarily an ominous finding even though the incidence of arrest disorders are higher when station is -3 or floating obstetricians can still be optimistic towards vaginal delivery¹².

Conclusion

In conclusion fetal outcome is not significantly different between the engaged and unengaged pregnant women during considering the APGAR score. The findings of the study suggest that the

obstetricians in Bangladesh should take a conservative attitude and non-engaged head at term in a primigravida. Women should not by itself be an indication for caesarean section.

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