

Effect of Maternal Migraine during Gestation and Delivery Outcomes

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ABSTRACT

Background: Migraine is defined as a condition accompanied with head ache, nausea, visual and sound sensitivity.

Objective: To determine the effect of migraine on maternal and neonatal health.

Study Design: Case control study

Place and Duration of Study: Department of Obstetrics & Gynaecology, Sandeman Provincial Hospital, Quetta from 1st August 2018 to 31st August 2021.

Methodology: One hundred pregnant women divided into migraine and non-migraine groups were enrolled. Both groups were assessed for their sociodemographic, clinical and biochemical status. Their information was documented.

Results: Group I females were above 36 years of age and were in their first trimester. There were 56% women who did not presented visual aura. More irritability, pre-term labour and preeclampsia, risk of C section and hypertension was noticed in group I than Group II.

Conclusion: Migraine is linked with higher risk of hypertension, preeclampsia, C section and low birth weight new born.

Key words: Migraine, Pregnancy, Low birth weight

INTRODUCTION

Migraine is termed as a disorder accompanied with head ache which is unilateral and throbbing. It is also associated with nausea, light and sound sensitivity and feeling excruciating pain with head movement.¹ This disorder has frequently been described as an inherited condition triggered by physical, environments and climatic changes into stereotypical occurrences.^{2,3} Migraines have been found to be more common in females than males with an increased ratio risk of 3:1 in females to males. Women under child bearing age are known to have highest migraine frequency up to 27% by the age fourth decade. Pregnancy has been known to substantially aggravate the risk of migraines.^{4,5}

Pregnancy and migraine have been long associated due to hormonal and stress changes. Migraines and heads aches have been enlisted as seventh highest cause of disabilities to preformed day to day duties.^{6,7}

In migraine patients the primary goal is to identify that either the migraine is itself a disease or a symptom of another disease. In obstetrics & gynaecology department it becomes really crucial to understand the cause of migraine in a pregnant woman. The three situations categorize the migraine of a pregnant female. One that either she has primary migraine or either is affected of initial pregnancy related headaches the migraine is caused by any other related disease which requires an appropriate emergent diagnosis.^{8,9} In women where migraine are left untreated or are a cause of underlying health condition the affects can be very critical for both maternal as well as perinatal.¹⁰⁻¹²

MATERIALS AND METHODS

This case control study included 100 pregnant women and divided into two groups; 50 pregnant women in Group I and 50 in Group II. The group I women were those which had been suffering from migraine until their delivery while Group II women who had no migraine (ICHD-2 criteria) during gestational weeks and considered as controls. Both groups were followed two weeks post their delivery period for assessing the delivery outcomes. This study was primarily ethically approved and each pregnant woman was given the right of consenting for this study prior its initiation. Each group women were interviewed not only about migraine history and clinical associated symptoms but also their stress inducers (family, employment, life style, dietary pattern). Five cc of blood was withdrawn from each patient and their cortisol levels were determined. Those pregnant women where migraine was diagnosed as a secondary condition were excluded from the study. Data was analyzed by SPSS-24 using Chi square with <0.05 p value as considerably significant.

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RESULTS

There were 50 pregnant females in both groups. Majority of female who were suffering from migraine (group I) were above 36 years of age in comparison to non-migraine group (group II) having most of the females within 18-25 years of age. Majority of Group I females started facing migraine or seek clinical assistance while they were in their first trimester (Table 1).

The women who were suffering from migraine described their condition either with formation of visual auras or not. There were 56% women who did not presented Aura formation while having a migraine episode (Fig. 1).

Table 1: Distribution of age and gestational age between group I and group II

Variable	Group I	Group II	P value
Age (years)			
18-25	11 (22%)	28 (56%)	0.004
26-35	14 (28%)	10 (20%)	0.810
>36	25 (50%)	12 (24%)	0.045
Gestational age (weeks)			
1-13	27 (54%)	14 (28%)	0.049
14-26	15 (30%)	26 (52%)	0.047
27-40	8 (16%)	10 (20%)	0.88

Table 2: Sociodemographic and gestational problems in group I and group II

Variable	Group I	Group II	P value
Sociodemographic			
Family members (n)	4-5	3-4	0.059
Employment	43%	45%	0.061
BMI >29.9	52%	41%	0.06
Gestational Prognosis			
Hypertension	11 (22%)	7 (14%)	0.051
Irritability	17 (34%)	10 (20%)	0.05
Preterm labour	4 (8%)	1 (2%)	0.049
Preeclampsia	5 (10%)	-	-
C section	12 (24%)	9 (18%)	0.059

Table 3: Gestational and delivery outcomes in group I and group II

Variable	Group I	Group II
Miscarriage	1 (2%)	-
Intra-uterine death	-	-
Still birth	-	-
Low birth weigh	4 (8%)	1 (2%)
Growth impairment	1 (2%)	-

There was no significant variance in family member, employment (stress inducers) and body mass index between both groups. However, more irritability, pre-term labour and pre-eclampsia were noticed in group I than Group II. Hypertension and risk of C section was also slightly elevated in group I in comparison with Group II (Table 2).

Low birth weight neonates (8%) and growth impairment (2%)

was observed in pregnant women suffering from migraine with one case who had a miscarriage (Table 3).

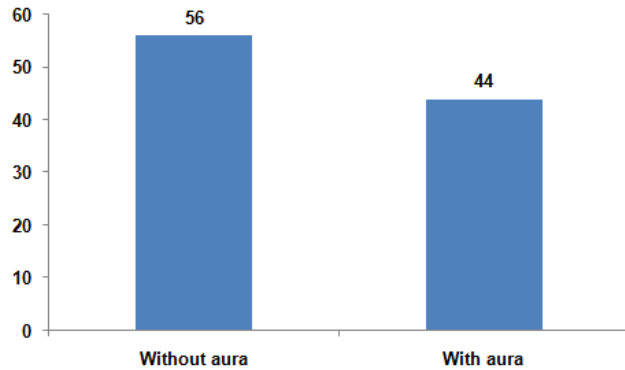


Fig 1: Distribution of visual aura

DISCUSSION

The present study has enrolled 100 patients with either migraine present in them or absent. The risk of migraine in pregnancy was more positively seen in women with older age than young. However, the literature supports the fact that in cases of un married women the young females are more prone for migraine than the older ones. This age tends to ascend in cases with married women where majority of studies has highlighted women above 31 years to be suffering from migraines as also presented in the current researches.¹³⁻¹⁵ Women with multigravida may also be associated with older age than young married pregnant women. Those women who have already given child birth have increased chances of developing migraines than young females. Surgical procedures tend to elevate the risk of migraine in women. A study shows that women who has already undergone c sections were at more risk of developing migraines. In addition to this first trimester is considered a high-risk trimester for migraines as hormonal changes can trigger migraines.¹⁶⁻²⁰

Most of the patients experiencing migraines classify their migraine as one without a visual Aura. This was also observed in the present study as well as study from India.²¹

Stressful life style, obesity also plays a major role in causing migraine in pregnant women. Studies have proven that risk of caesarean deliveries, pre-eclampsia, hypertension and low birth weight increases in migraine women. Therefore, migraines rises the risks of poor prognosis and outcomes in pregnant women than those who completes their gestations without suffering from migraine related complications.^{22,23}

CONCLUSION

Migraine in pregnancy effects not only overall health of women but also elevates the risk of developing gestational complications like hypertension, preeclampsia, pre term labour and C sections with elevated risk of low birth weight neonates delivery.

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