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Eclampsia: A Review on Risk Factors, Management and Outcome

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ABSTRACT

Eclampsia is when a person with preeclampsia develops seizures (convulsions) during pregnancy. Eclampsia remains a major cause of maternal mortality, particularly in teenage pregnancies. The prevalence of eclampsia globally is reported to be 0.3% but data from individual countries suggest that prevalence and mortality risk vary depending on region and socio-economic status. Family history of Hypertension, preeclampsia, low serum quantity of Calcium and Magnesium, are also risk factors.

Keywords: Eclampsia: a review on risk factors, management and outcome

INTRODUCTION

Eclampsia is seizures that occur in pregnant people with preeclampsia. Symptoms of eclampsia are high blood pressure, headaches, blurry vision and convulsions. It is rare but serious condition that occurs in the second half of pregnancy [1-3]. This condition occurs as complication of preeclampsia which is a disorder of pregnancy in which a person who's pregnant has high blood pressure and protein in their urine. Eclampsia is when a person with preeclampsia develops seizures (convulsions) during pregnancy. Seizures are episodes of shaking, confusion and disorientation caused by abnormal brain activity. Eclampsia typically occurs after the 20th week of pregnancy. It's rare and affects less than 3% of people with preeclampsia. Eclampsia can cause complications during pregnancy and requires emergency medical care [4]. The disorder can progress in a spectrum; from non-proteinuric hypertension in pregnancy through preeclampsia to eclampsia [5]. Eclampsia remains a major cause of maternal mortality, particularly in teenage pregnancies. Healthcare professionals providing antenatal must regard teenagers as a high risk group for the pre-eclampsia-eclampsia syndrome [6]. The most common symptoms of eclampsia are: seizures, severe distress or confusion, losing consciousness. Eclampsia typically develops from preeclampsia. High blood pressure (from preeclampsia) puts pressure on your blood vessels. There can be swelling in your brain, which may lead to seizures. The best treatment for eclampsia is giving birth. If the fetus is 37 weeks gestation or more, inducing labor is usually the best choice. You may still have a vaginal delivery if you and the fetus are stable. Women with eclampsia are at higher risk for: placental abruption, preterm labor, blood clotting issues, stroke, stillbirth, death [7-8].

PREVALENCE OF ECLAMPSIA

The prevalence of eclampsia globally is reported to be 0.3% (Abalos E, and al., 2014). This is based on secondary analysis of a World Health Organization (WHO) multi-country survey that included 875 cases of eclampsia, collected over a short duration from only secondary or tertiary hospitals [9].

Data from individual countries suggest that prevalence and mortality risk vary depending on region and socio-economic status. In the cohort that took place in 10 low- and middle-resource geographical regions of 536,233 deliveries there were 2,692 cases of eclampsia over 20 months. This gives an incidence of eclampsia of 0.5% [10].

BIOLOGICAL DETERMINANTS

AGE OF THE PATIENT

The age of the pregnancy woman is also a risk factor for developing the eclampsia by influencing the pre-eclampsia evolution, as it was approved by Nyarko Adwoa, and Al., in their study that showed that 314

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respondents out of the 5,609 deliveries were diagnosed with pre-eclampsia, 27.7% of the pre-eclampsia cases were within the age group of 18-24 years old, 25.5% of them were within 25-29 years old, 26.1 % were within the age group of 30-34 years old, whereas 4% of them were over 40 years old [11].

OBSTETRIC STATUS

There is a higher risk of pre - eclampsia and eclampsia among women who had abortion and delivered by caesarean section in the previous delivery [12]. Referring to gestational age at admission, the odds of having pre-eclampsia increased among women who had preterm gestation and pre-conception smoking exposure [13]. Nulliparous women when compared with multiparous (two to five) women were associated with an increased risk of developing eclampsia [13]. While the grand multiparous (6 to 14) when compared to the multi parous were at a lower risk of getting eclampsia. Cases that delivered male babies compared to those who delivered female babies were at an increased risk of developing eclampsia [13].

SERUM CALCIUM AND MAGNESIUM

The average seric calcium value was 4.47 ± 0.23 mEq/L in healthy pregnant women compared to 3.80 ± 0.71 mEq/L in patients (pre-eclamptic and eclamptic) ($P < 0.001$). Mean magnesium level was 1.56 ± 0.15 mg/dL in the control group compared to 1.20 ± 0.41 mg/dL in the case group ($P < 0.001$). The average serum calcium value was 3.70 ± 0.56 mEq/l in pre-eclamptic pregnant women compared to 3.20 ± 0.41 mEq/l for eclamptic; that of seric magnesemium was 1.25 ± 0.36 mg/dl in pre-eclamptic pregnant women compared to 1.15 ± 0.46 eclamptic women ($P < 0.001$). There is a very significant difference of the values obtained in these 3 subgroups: the values obtained decreased going from healthy pregnant groups to pre-eclamptics and eclamptics [14].

MORTALITY

Eclampsia has a high case fatality rate, which varies among regions of the world, presumably as a function of the access to and quality of health care. Although eclampsia is associated with an increased risk of maternal death in developed countries (0%-1.8%), the mortality rate is as high as 15% in developing countries [15].

The condition is relatively rare in developed countries because of the wider availability and utilization of modern obstetric care services. The incidence in the UK is about 2.7 per 10,000 deliveries, and an incidence of 1 in 3,704 was reported from Nova Scotia, Canada. The reported incidence in developing countries varies widely from about 1 in 12 to 1 in 1,700 deliveries [16].

CONCLUSION

Eclampsia is seizures that occur in pregnant people with preeclampsia. Symptoms of eclampsia are high blood pressure, headaches, blurry vision and convulsions. The prevalence of eclampsia globally is reported to be 0.3%, but data from individual countries suggest that prevalence and mortality risk vary depending on region and socio-economic status. Family history of Hypertension, preeclampsia, low serum Calcium and Magnesium, are also risk factors.

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