Hypertensive Disease in Pregnancy - A Retrospective Study

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Abstract

Introduction: *Hypertensive disease in pregnancy is a group of high blood pressure disorders that occur during pregnancy and is classified into 4 categories: pregnancy-induced hypertension (PIH), chronic hypertension, preeclampsia-eclampsia and preeclampsia superimposed on chronic hypertension. About 10% of pregnancies globally are complicated by hypertensive diseases. Hypertensive disease in pregnancy,*

are one of the three major causes of death in pregnancy (16%) along with postpartum bleeding (13%) and puerperal infections (2%

Aim: *The purpose of this study was to determine the frequency of hypertensive disease in pregnancy and the perinatal outcomes of women with hypertensive disease in pregnancy.*

Method*: This was a retrospective study of hypertensive disease in pregnancy at the Obstetrics and Gynecology Clinic / University Clinical Centre in Kosovo. The data was obtained from the hospitalized patient's medical history. Sample size: 8754 cases. Data collection, classification, and statistical analysis were performed with SPSS 21.*

Results:*Out of 8754 observed pregnant women, 84 or 10.4% of them had the hypertensive disease in pregnancy; of them, 59.5% (50) had pregnancy-induced hypertension (PIH), 20.2%(17) preeclampsia, 14.3% (12) chronic hypertension, and 6% (5) eclampsia. The average age of women with the hypertensive disease in pregnancy was 26.6 +- 2; where 27.5% (23) of them were women over 35 years of age, while 3.5% of them were under 18 years of age. Out of 84 women; 53.5% (45) were multiparous women, while 46.5% (39) were primiparous women. 41.7% (35) of women with hypertensive pregnancy disease are born with a Cesarean section, while 58.3% (49) are born with vaginal delivery. 79.7% of infants were born with an Apgar score of over 5, 13% below 5, while 7.3% were morsfoetus.*

Conclusions: *The prevalence of hypertension in pregnancy at the Obstetrics and Gynecology Clinic in Pristina was 10.4%. 27.5% of women with the hypertensive disease in pregnancy were women over 35 years of age, while 3.5% of them were under 18 years of age. Hypertensive disease in pregnancy occurs more frequently in multiparous women. Due to emergencies, almost half of women with hypertensive pregnancy disease are born with a Cesarean section, and 80% of infants are born with an Apgar score of over 5.*

Key words: *Hypertensive disease in pregnancy; Prevalence; Kosovo*

Introduction

While motherhood is a positive and enjoyable experience, many women are experiencing somewhat of a health disturbance on their pregnancy months, either that is a sort of an acute illness or a prolong disease.[1]

Around 15% of pregnant women are expected to develop life-threatening complications during pregnancy, at delivery or post-partum.

Hypertension is the most common medical problem encountered during pregnancy, complicating 2-3% of pregnancies.Hypertensive disorders during pregnancy are classified into 4 categories, as recommended by the National High Blood Pressure Education Program Working Group on High Blood Pressure in Pregnancy: chronic

hypertension, preeclampsia-eclampsia, preeclampsia superimposed on chronic hypertension, and gestational hypertension (transient hypertension of pregnancy or chronic hypertension identified in the latter half of pregnancy) [2]

Chronic hypertension is high blood pressure that either precedes pregnancy, is usually diagnosed within the first 20 weeks of pregnancy, or does not resolve by the 12-week postpartum checkup. Two categories of severity are recognized: mild (up to 179 mm Hg systolic and 109 mm Hg) and severe (≥ 180 systolic or 110 diastolic). Chronic hypertension complicates about 5% of all pregnancies, and prevalence rates are increasing year by year because of delayed childbearing.[3]. Medications should be reviewed when pregnancy is first diagnosed or in the time when the couple is planning to get pregnant. Methyldopa is the most studied of all antihypertensive medications and is generally the first choice in pregnancy because it has a limited effect on uteroplacental blood flow [4].Sometimes an alternative must be found because of elevated liver enzymes or complaints of headache. Labetalol, a combined alphablocker and beta-blocker, is the first alternative to methyldopa and is becoming a first-line choice as experience with the drug during pregnancy increases. It is generally well tolerated and has an easier (twice-a-day) dosing schedule than methyldopa. [5].

Most studies have not found adverse pregnancy outcomes. Nonetheless, caution should be used in cases of impaired uteroplacental perfusion, such as preeclampsia or intrauterine growth restriction. Atenolol and other pure beta-blockers should be avoided: they have been associated with babies born small for their gestational age. Angiotensin-converting enzyme (ACE) inhibitors are contraindicated in the second and third trimester because they are associated with a myriad of congenital anomalies, including renal failure, oligohydramnios, renal dysgenesis, reduced ossification, pulmonary hypoplasia, and fetal and neonatal death. [6]

Complication rates are directly related to the severity and duration of elevated blood pressures. For instance, patients with severe hypertension in the first trimester have a greater than 50% risk of developing superimposed preeclampsia. [7] All hypertensive patients should undergo increased surveillance, serial laboratory tests throughout pregnancy, serial ultrasound scans to follow growth, and antenatal testing. The baby should be delivered normally that means in vaginal ways if possible.

Gestational hypertension, formerly known as pregnancy-induced hypertension or PIH, is the new onset of hypertension after 20 weeks of gestation.[12]

The diagnosis can be set as soon as the patient has:

- High blood pressure (systolic ≥ 140 or diastolic ≥ 90 mm Hg, the latter measured using the fifth Korotkoff sound)
- No protein in the urine
- Previously normal blood pressures
- No manifestations of preeclampsia.

Also known as transient hypertension, gestational hypertension is actually diagnosed retrospectively when the patient does not develop preeclampsia and if blood pressure returns to normal by the 12-week postpartum visit. Fifty percent of women diagnosed with gestational hypertension are between 24 and 35 weeks develop preeclampsia [8]

Preeclampsia is a multiorgan disease process of unknown etiology [9] characterized by the development of hypertension and proteinuria after 20 weeks of gestation.

Preeclampsia is defined as elevated blood pressure after 20 weeks of gestation (≥ 140 mm Hg systolic or ≥ 90 mm Hg diastolic) plus proteinuria (> 0.3 g/24 hours). In clinical practice, we usually use the criteria of two elevated bloodpressure measurements 6 hours apart and a proteinuria of 300 mg in a 24-hour urine specimen. A 24-hour determination is most accurate because urine dipsticks can be affected by variable excretion, maternal dehydration, and bacteriuria[10]

Preeclampsia can range from mild to severe. Severe preeclampsia is defined as any of the following:

- Markedly elevated blood pressure measurements (systolic ≥ 160 mm Hg or diastolic ≥ 110 mm Hg) taken at least 6 hours apart with the patient on bed rest
- Proteinuria (≥ 5 g/24 hours or ≥ 3+ on two random samples 4 hours apart)
- Manifestations of end-organ disease: oliguria (< 500 mL in 24 hours), cerebral or visual disturbances, pulmonary edema, cyanosis, epigastric or right-upperquadrant pain, impaired liver function, thrombocytopenia, or fetal growth restriction.

HELLP syndrome (hemolysis, elevated liver enzymes, and low platelets) used to be classified as a separate syndrome, but current thinking categorizes it as a manifestation of preeclampsia, occurring in about 20% of severe cases. It is associated with significant maternal and perinatal morbidity. A decreasing platelet count and an increasing l-lactate dehydrogenase level (indicative of both hemolysis and liver dysfunction) reflect disease severity[11], [12]

Preeclampsia places both mother and fetus at risk. It is, however, a maternal disorder. The mainstay of treatment is early detection and managed delivery to minimize both maternal and fetal risks. Magnesium sulfate is still the drug of choice for preventing and arresting eclamptic seizures. It has the additional benefit of reducing the incidence of placental abruption [13]. Serum magnesium levels should be monitored in women with elevated serum creatinine levels, decreased urine output, or absent deep tendon reflexes [14]. Antihypertensive medications are used solely to prevent maternal morbidity and have no effect on disease progression or preventing eclampsia.

Medications must be given with caution: if blood pressure is lowered too fast, it can have a dramatic effect on uteroplacental perfusion and can cause an already compromised fetus to rapidly decompensate and become bradycardic. Preferred medications are hydralazine (5-10 mg intravenous bolus every 10-15 minutes), labetalol, nicardipine, and sodium nitroprusside. Intravenous labetalol and hydralazine are commonly used for the acute management of preeclampsia [15].

Although many pregnant women with high blood pressure have healthy babies without serious problems, high blood pressure can be dangerous for both the mother and the fetus therefore it should be detected and soon diagnosed so we can manage it and escape from such problems.

Aim

The purpose of this study was to determine the frequency of hypertensive disease in pregnancy and the perinatal outcomes of women with hypertensive disease in pregnancy.

Materials and methods

This was a retrospective study of hypertensive disease in pregnancy at the Obstetrics and Gynecology Clinic / University Clinical Centre in Kosova. The data was obtained from the hospitalized patient's medical history. Sample size: 8754 cases. Data collection, classification, and statistical analysis were performed with SPSS 21.This study was conducted during a year from 2017 to 2018

All pregnant women that were hospitalized in University Clinical Centre of Kosova were eligible to be included in this study.

Hypertensive disorders in pregnancy were diagnosed based on the diagnostic criteria set by the National High Blood Pressure Education Program Working Group.[8]

Pregnant women were in a randomized selection for the study. In this study to get better results different data was collected such as their previous pregnancies, way of delivery, their babies health condition also their age.

Results

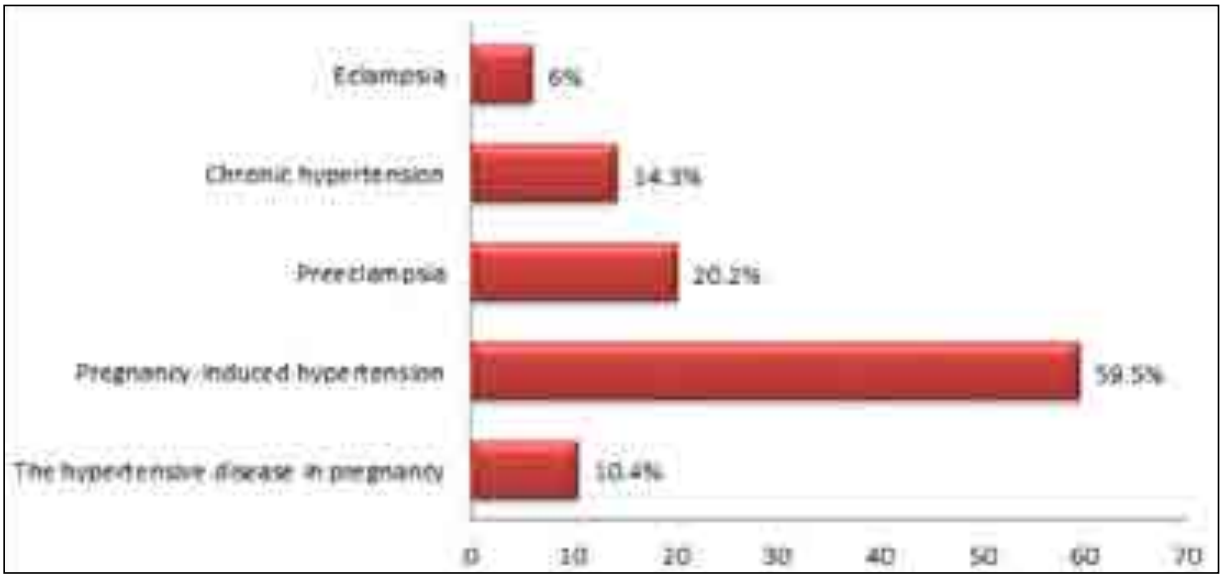
Out of 8754 observed pregnant women, 84 or 10.4% of them had the hypertensive disease in pregnancy; of them, 59.5% (50) had pregnancy-induced hypertension

(PIH), 20.2%(17) preeclampsia, 14.3% (12) chronic hypertension, and 6% (5) eclampsia.

TABLE 1. The most common hypertensive disorder in pregnant women

	N	%
The hypertensive disease in pregnancy	84	10.4
Pregnancy-induced hypertension	50	59.5
Preeclampsia	17	20.2
Chronic hypertension	12	14.3
Eclampsia	5	6
TOTAL	168	100

CHART 1. The most common hypertensive disorder in pregnant women expressed in percent



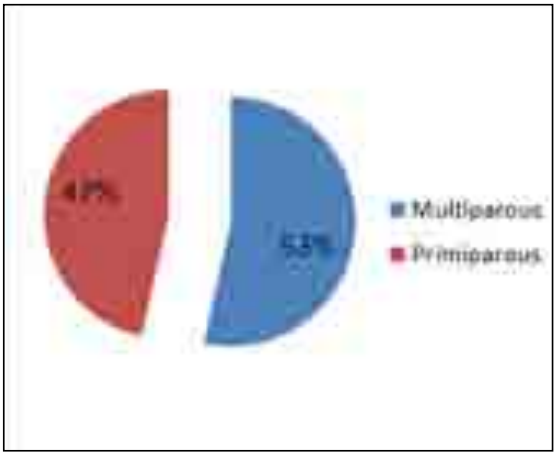
The average age of women with the hypertensive disease in pregnancy was 26.6 +- 2; where 27.5% (23) of them were women over 35 years of age, while 3.5% of them were under 18 years of age.

TABLE 2. The age groups of women that were studied

AGE	%
<18	3.5
18-34	69
>35	27.5

Out of 84 women; 53.5% (45) were multiparous women, while 46.5% (39) were primiparous women.

CHART 2.S eparated groups based on previous pregnancies of the pregnant women



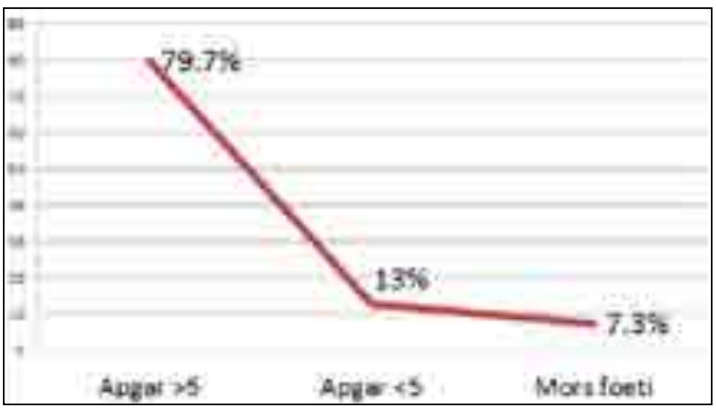
41.7% (35) of women with hypertensive pregnancy disease are born with a Cesarean section, while 58.3% (49) are born with vaginal delivery.

TABLE 3. The way of delivery of pregnant women with hypertensive disease in pregnancy

Way of delivery	N	%
Cesarean Section	35	41.7
Vaginal Delivery	49	58.3
TOTAL women with hypertensive disease in pregnancy	84	100

79.7% of infants were born with an Apgar score of over 5, 13% below 5, while 7.3% were morsfoeti Chart 3

CHART 3. Health conditions of the infants



Conclusions

We concluded that the prevalence of hypertension in pregnancy at the Obstetrics and Gynecology Clinic in Pristina was 10.4%.

About the age 27.5% of women with the hypertensive disease in pregnancy were women over 35 years of age, while 3.5% of them were under 18 years of age. Our study provides that hypertensive disease in pregnancy occurs more frequently in multiparous women such it shows in our study. Due to emergencies, almost half of women with hypertensive pregnancy disease are born with a Cesarean section, and 80% of infants are born with an Apgar score of over 5.

Discussion

This study determined adverse maternal and perinatal outcomes among women with Health Disease in Pregnancies and directly compared these adverse pregnancy outcomes between women with chronic/gestational hypertension and those with pre-eclampsia/eclampsia. The sociodemographic and reproductive characteristics did not differ significantly between the two groups except for prim paternity. Hypertensive disorders of pregnancy are the commonest medical complication of pregnancy. The incidence varies in different populations. Generally, the problem is more common in the developing countries compared to developed countries

According to the results of this meta-analysis, the pooled prevalence of hypertension disorder of pregnancy in Ethiopia was estimated to be 6.25% (95% CI: 5.23%, 7.26%). Regional variation in Health Disease In Pregnancy was observed, the highest prevalence of Health Disease In Pregnancy (18.25%) was reported in a study done in Public Health Institutions in Arba Minch town[16]

The overall pooled prevalence of hypertensive disorders of pregnancy in this study is more or less similar to the large study conducted on Health Disease In Pregnancy in China which was estimated 5.2%[17]. But, in the finding (Abalos et al., 2014) is higher than the global prevalence [18]. This difference might be due to socio-cultural, variability in maternal risk factor distribution, and the difference in antenatal care service accessibility. In addition, most of the studies included in this meta-analysis were conducted in hospitals and health centers which might increase the prevalence

Young maternal age was not associated with Health Disease In Pregnancy. Similar finding was also observed in a systematic review on pre-eclampsia. The study showed that young maternal age doesn't affect the risk of developing pre-eclampsia [19]. But, other studies showed different findings in the occurrence of Health Disease in Pregnancy among younger and older mothers.

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