

**HYPERTENSION DURING PREGNANCY****Dr. Ghadah Adnan Alkaban\*<sup>1</sup>, Dr. Azhar Safaa Alwardi<sup>2</sup> and Dr. Rabia Adnan Alkaban<sup>3</sup>**

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Hypertension is the most common medical disorder of pregnancy and is reported to complicate up to 1 in 10 gestations.<sup>[1]</sup>

The National High Blood Pressure Education Program of the NHLBI classifies hypertensive disorders of pregnancy into following categories: gestational hypertension, chronic hypertension, preeclampsia, and preeclampsia superimposed on preexisting hypertension.<sup>[2]</sup>

Gestational hypertension is a temporary diagnosis for hypertensive pregnant women who do not meet criteria for preeclampsia or chronic hypertension (hypertension first detected before the 20th week of pregnancy). The diagnosis is changed to:

- Preeclampsia, if proteinuria or new signs of end-organ dysfunction develop
- Chronic hypertension, if blood pressure elevation persists  $\geq 12$  weeks postpartum. Of note, in 2017, the definition of hypertension in nonpregnant adults was revised as
- Normal blood pressure – Systolic  $< 120$  mmHg and diastolic  $< 80$  mmHg
- Elevated blood pressure – Systolic 120 to 129 mmHg and diastolic  $< 80$  mmHg
- Hypertension:
  - Stage 1 – Systolic 130 to 139 mmHg or diastolic 80 to 89 mmHg
  - Stage 2 – Systolic at least 140 mmHg or diastolic at least 90 mmHg

• Transient hypertension of pregnancy, if blood pressure returns to normal by 12 weeks postpartum  
Thus, reassessment up to 12 weeks postpartum is necessary to establish a final diagnosis.<sup>[2]</sup>

Gestational hypertension is the most common cause of hypertension during pregnancy. It occurs in 6 to 17 percent of healthy nulliparous women and 2 to 4 percent of multiparous women.<sup>[3-5]</sup> The prevalence is highest in women with preeclampsia in a previous pregnancy, women with multifetal gestation, and overweight/obese women.<sup>[6,7]</sup>

**PATIENTS AND METHODS**

This is a 3 years study from march 2014 to march 2017, in which all pregnant patients attending obstetric clinic in the teaching hospital were included.

For all patients detailed histories were taken. This was followed by a full examination including general and pelvic examinations, body weight (kg), and height (cm). Systolic blood pressure (SBP) and diastolic blood pressure (DBP) were measured with a sphygmomanometer.

Blood samples for baseline measurements were collected for measuring biochemistry and electrolytes.

**RESULTS**

Finally we collect 756 pregnant patients with gestational hypertension, and 2437 pregnant patients without hypertension.

As compared to mild preeclampsia, women who developed severe gestational hypertension (without proteinuria) had higher rates of both preterm delivery at  $< 37$  weeks of gestation and small-for-gestational-age infants. In addition, when compared to women with mild preeclampsia, for women with severe gestational hypertension, gestational age and birth weight were significantly lower at delivery ( $P < .003$  for both age and birth weight). Moreover, women who developed severe gestational hypertension had higher rates of preterm delivery at  $< 37$  weeks of gestation (54.2% vs 17.8%,  $P = .001$ ) and at  $< 35$  weeks of gestation (25.0% vs 8.4%,  $P = .0161$ ), and delivery of small-for-gestational-age infants (20.8% vs 6.5%,  $P = .024$ ) when compared to women who remained normotensive or those who developed mild gestational hypertension. There were no statistically significant differences in perinatal outcomes between the normotensive/mild gestational hypertension and the mild preeclampsia groups. Overall, women who had severe gestational hypertension had increased rates of preterm delivery and delivery of small-for-gestational-age infants than women with mild gestational hypertension or mild preeclampsia. In the presence of severe hypertension,

proteinuria did not increase the rates of preterm delivery or delivery of small-for-gestational-age infants. Significantly increased maternal morbidities included increased cesarean deliveries, abruptio placentae, and acute renal dysfunction; and significantly increased perinatal morbidities included respiratory distress syndrome, ventilatory support, and fetal growth restriction. Adverse outcomes were highest in women with severe pregnancy-associated hypertension or preeclampsia.

### CONCLUSIONS AND RECOMMENDATIONS

Hypertension in women of childbearing age is a challenging medical problem with increasing prevalence. Essential hypertension remains the most common diagnosis in young women. Reproductive goals and possible teratogenic effects must be considered when initiating therapy. Hypertensive disorders of pregnancy

are frequent causes of maternal/fetal morbidity and mortality, the most common being preeclampsia/eclampsia. Pregnant patients should be screened routinely. Early recognition and prompt care from a multidisciplinary service, including obstetrics, cardiology, and intensive medicine, are required to prevent deleterious outcomes. Hypertensive disorders of pregnancy reflect endometrial endothelial dysfunction/abnormalities and systemic endothelial dysfunction, which might predict future cardiovascular disease in these young women, prompting early preventive measures. In women who have gestational hypertension or preeclampsia, increased rates of preterm delivery and delivery of small-for-gestational-age infants are present only in those with severe hypertension. In these women, the presence of proteinuria does not influence perinatal outcome.

**Table 1: The Clinical, Hormonal And Metabolic Parameters In Hypertensive Pregnant Woman.**

Variables	Chronic hypertension	Preeclampsia	Transient hypertension of pregnancy	Normotensive
Age (years)	27.98 ± 13.95	22.8 ± 15.87	23.5 ± 16.88	25.8 ± 19.7
BMI (kg/m <sup>2</sup> )	32.76 ± 9.04	31.66 ± 9.11	33.7 ± 8.98	29.6 ± 11.3
Birth weight <10th percentile	20.8%	17.7%	7.1%	6.5%
(maternal death or serious complications)	62.6%	33.2%	4.6%	3.7%
Delivery <37 wk	54.2%	42.8%	19.9%	17.8%
Delivery <34 wk	25%	21.6%	9.7%	8.5%
eclampsia	67.6%	97.1%	3.7%	00%

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