

The Effect of Antihypertensive Drugs on the Course of Pregnancy in Women with Chronic Arterial Hypertension

Sidikkhodzhayeva Mokhera Adilkhodzhaevna

Master student of obstetrics and gynecology in family medicine department of Tashkent medical academy

Ergasheva Mokhitabon Elmurodovna

Associate professor of obstetrics and gynecology in family medicine department of Tashkent medical academy

Abstract: The urgency of the problem of chronic arterial hypertension (CAH) in pregnant women is due to an increase in the percentage of its prevalence and the severity of the consequences for the mother and fetus. Chronic hypertension occurs in about 3% of pregnant women and is the cause of an increased risk of the following complications during pregnancy: preeclampsia, fetal growth restriction, premature birth and stillbirth, and they account for 25-28% of the total number of complications that can occur in pregnant women with chronic arterial hypertension [1].

Keywords: chronic arterial hypertension, pregnancy, preeclampsia, dopegitis, dopplerography.

Introduction. Hypertensive disorders are among the most common complications during pregnancy, affecting approximately 10% of all pregnancies. Preeclampsia, in particular, is observed in 2-8% of pregnancies complicated by chronic arterial hypertension (CAH). The relevance of this problem is further underscored by its increasing prevalence and its severe consequences for maternal and fetal health, including preeclampsia, fetal growth restriction, preterm delivery, and stillbirth. In the Russian Federation, CAH has been diagnosed in 5-30% of pregnancies in recent decades, with a trend indicating an increase in prevalence. This issue has significant socio-economic implications, including the financial burden of treatment and repeated hospitalizations after delivery. In 2018, new European guidelines on cardiovascular diseases during pregnancy were published. These guidelines provide a comprehensive classification, diagnostic criteria, and treatment recommendations for hypertensive disorders in pregnant women. Methyldopa, a centrally acting antihypertensive drug, remains the first-line treatment for hypertension during pregnancy due to its proven efficacy and safety.

Methods and materials. This study involved a prospective and retrospective analysis of women with chronic arterial hypertension. The participants were grouped based on gestational age and other clinical parameters.

Gestational Age Analysis:

The study included 60 pregnant women with CAH, categorized as follows:

- 1) >22 weeks: 10 women (16.67%)
- 2) 22-34 weeks: 20 women (33.33%)

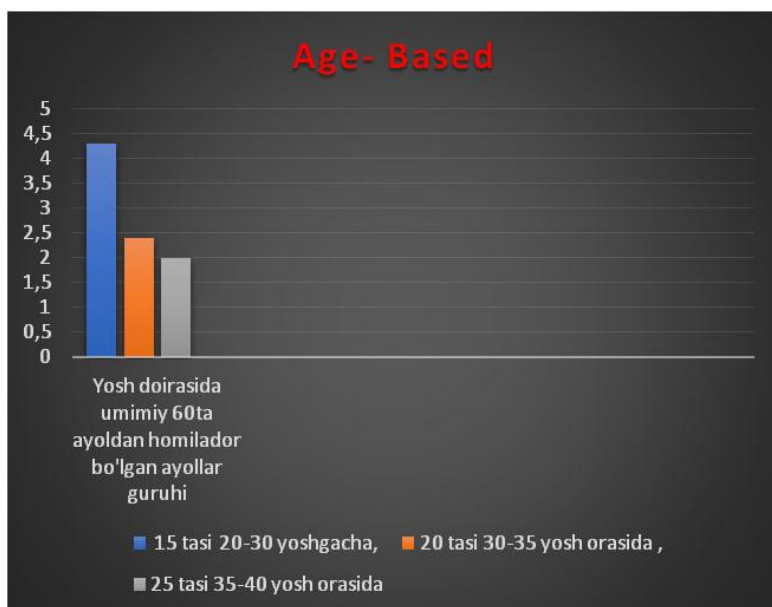
3) 34-40 weeks: 30 women (50%)

Results. Age-Based Analysis:

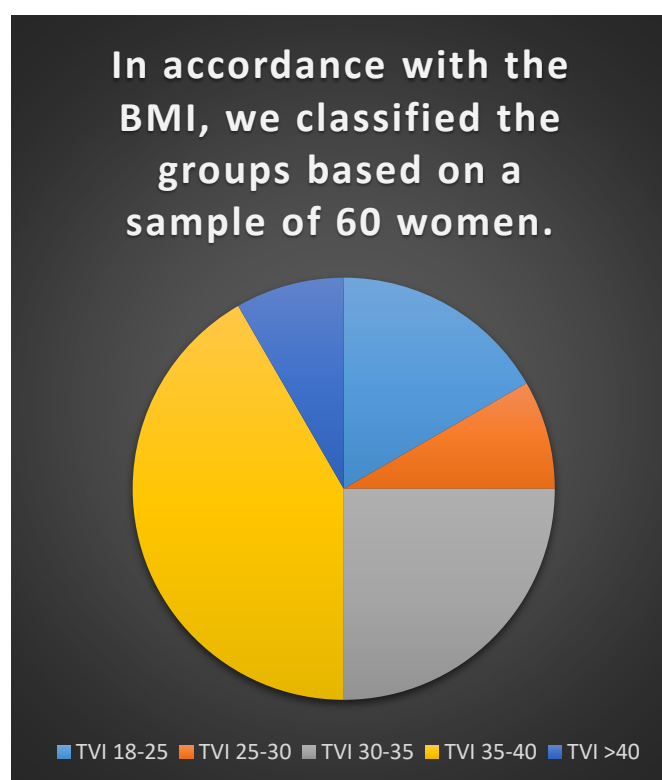
The participants were further analyzed based on age: 20-30 years: 15 women (25%), 30-35 years: 20 women (33.33%), 5-40 years: 25 women (41.66%)

Body Mass Index (BMI) Analysis: The relationship between BMI and the risk of CAH complications was studied. BMI categories were defined as follows: 18-25 (Normal): 10 women (16.67%), 25-30 (Overweight): 5 women (8.33%), 30-35 (Obesity Grade I): 15 women (20%), 35-40 (Obesity Grade II): 25 women (41.67%), >40 (Obesity Grade III): 5 women (8.33%)

These classifications highlight the influence of gestational age, maternal age, and BMI on the severity and risk of CAH complications during pregnancy.



BMI<16
Extreme underweight
16≤BMI<18.5
Underweight
18.5≤BMI≤25
Ideal weight
25<BMI≤30
Overweight
30<BMI≤35
Grade I obesity
35<BMI≤40
Grade II obesity
40<BMI
Grade III obesity



The majority of women with CAH received methyldopa (Dopegit), a centrally acting antihypertensive medication. The dosages and corresponding outcomes are summarized below:

- 1) ½ tablet twice daily: 60% of cases.
- 2) 1 tablet twice daily: 20% of cases.
- 3) 1 tablet three times daily: 10% of cases.
- 4) 1 tablet four times daily: 10% of cases.

BP Stabilization:

The antihypertensive therapy resulted in the following BP improvements:

- 1) From 160/100 mmHg to 130/90 mmHg: 40% of cases.
- 2) From 150/100 mmHg to 120/80 mmHg: 40% of cases.

Unstable BP (130/100 mmHg to 150/100 mmHg): 20% of cases, attributed to comorbid conditions such as sinus tachycardia, myocarditis, and arrhythmias.

Side Effects: Methyldopa was well-tolerated in 80% of cases. Adverse effects included diarrhea (10%) and peripheral edema (10%), which necessitated a switch to alternative antihypertensive therapy.

Proteinuria Analysis: Proteinuria levels showed a significant decrease following methyldopa treatment:

- 1) 50% of cases: Reduction from 0.132 g to 0.066 g.
- 2) 40% of cases: Reduction to 0.033 g.
- 3) 10% of cases: Reduction to 0.099 g.

Fetal Monitoring: Doppler ultrasonography revealed stable fetal conditions in 70% of cases. However, 30% of cases showed monotony in fetal heart rate dynamics, indicating the need for closer monitoring.

The findings of this study confirm the efficacy of methyldopa (Dopegit) in managing chronic arterial hypertension during pregnancy. The drug effectively stabilized blood pressure and reduced the risk of adverse maternal and fetal outcomes. Its safety profile, with minimal side effects, makes it a preferred choice for antihypertensive therapy during pregnancy.

1. Methyldopa demonstrated significant BP stabilization even at low dosages.
2. Proteinuria levels improved, indicating better renal function.
3. The drug was effective in preventing severe complications such as preeclampsia in the majority of cases.

Conclusion

All in all, Methyldopa (Dopegit) remains a first-line treatment for chronic arterial hypertension during pregnancy due to its efficacy in stabilizing blood pressure and its favorable safety profile. The study highlights the importance of individualized dosing and careful monitoring of BP and proteinuria levels to optimize outcomes. Methyldopa is recommended as the drug of choice for pregnant women with CAH, particularly for those planning pregnancy or exhibiting early signs of hypertension.

References:

1. Vasapollo B, Novelli GP, Gagliardi G, et al. Pregnancy complications in chronic hypertensive patients are linked to pre-pregnancy maternal cardiac function and structure. *American Journal of Obstetrics and Gynecology*, 2020; DOI: 10.1016/j.ajog.2020.02.043.
2. Guedes-Martins L. Chronic Hypertension and Pregnancy. *PubMed*, 2016; DOI: 10.1007/5584_2016_81.

3. Ambia AM, Morgan JL, Wells CE, et al. Perinatal outcomes associated with abnormal cardiac remodeling in women with treated chronic hypertension. *American Journal of Obstetrics and Gynecology*, 2018; DOI: 10.1016/j.ajog.2018.02.015.
4. Valensise H, Farsetti D, Pisani I, et al. Hemodynamic maladaptation and left ventricular dysfunction in chronic hypertensive patients at the beginning of gestation. *Case Control Study*, 2020.
5. Ferrazzi E, Stampalija T, Monasta L, et al. Maternal hemodynamics: A method to classify hypertensive disorders of pregnancy. *American Journal of Obstetrics and Gynecology*, 2017; DOI: 10.1016/j.ajog.2017.10.226.
6. Shikh EV, Zhukova OV, Ostroumova OD, et al. Hypertension in pregnant women: European Recommendations 2018. *Clinical Medicine*, 2019; DOI: 10.18705/1607-419X-2019-25-1-105-115.
7. Haddad B, Sibai BM. Chronic hypertension in pregnancy. *Ann Med*1999;31:246-52.CrossRefPubMedGoogle Scholar.
8. Livingston JC, Sibai BM. Chronic hypertension in pregnancy. *Obstet Gynecol Clin North Am*2001;28:447-63.CrossRefPubMedGoogle Scholar.
9. Yoder SR, Thornburg LL, Bisognano JD. Hypertension in pregnancy and women of childbearing age. *Am J Med*2009;122:890-5.CrossRefPubMedGoogle Scholar.
10. Bateman BT, Bansil P, Hernandez-Diaz S, Mhyre JM, Callaghan WM, Kuklina EV. Prevalence, trends, and outcomes of chronic hypertension: a nationwide sample of delivery admissions. *Am J Obstet Gynecol*2012; 206:134.e1-8.PubMedGoogle Scholar.
11. D.K. Najmutdinova, D.A. Gadoyeva. "Changes in cytokine profile after surgery". *European journal of modern medicine and practice* 3 (12), 69-74.