

Treatment of Hypertension in Pregnancy

1. Can you please review the treatment of hypertension in pregnancy?

Question submitted by: Anonymous

One of the most important tasks in managing hypertension in pregnancy is to determine the type of hypertensive disorder involved. Pre-eclampsia refers to the syndrome of new onset of hypertension (> 140/90) occurring after the 20th week of gestation with proteinuria (2+ dipstick on 2 occasions six hours apart or > 300 mg once daily). Pre-existing hypertension is defined as hypertension (\geq 140 systolic and/or \geq 90 diastolic) with onset prior to pregnancy, present before the 20th week of pregnancy, and persisting beyond 12 weeks postpartum. Gestational hypertension refers to elevated blood pressure first detected after 20 weeks gestation in the absence of proteinuria.

Once diagnosed, the severity of hypertension should be established. Mild to moderate hypertension is defined as a blood pressure of 140 to 159/90 to 109 and severe hypertension as a blood pressure \geq 160/110. In a Cochrane review of 46 trials involving 4,282 women, there was insufficient evidence to show a benefit in treating women with mild to moderate hypertension. There was a halving of the risk of developing severe hypertension associated with the use of antihypertensive medications, but no difference in the risk of pre-eclampsia, fetal demise, preterm birth, or small-for-gestational age babies. In the absence of end-organ disease or symptoms, mild to moderate hypertension need not

be treated, although patients should be monitored for the development of severe hypertension.

There is a significant risk of stroke, heart failure, and renal failure in women with severe hypertension. These patients should be managed with antihypertensive medications for a goal blood pressure of 140 to 150/90 to 100. Regardless of hypertensive disorder, women with evidence of end-organ damage should also be treated with a goal blood pressure of 120 to 140/80 to 90. Care must be given not to lower the blood pressure too aggressively, as this may result in decreased fetal-placental perfusion and reduced fetal growth.

As in the nonpregnant population, treatment of hypertension in pregnancy begins with lifestyle modifications. There are few trials assessing the effect of bed rest, reduced activity, or salt restriction. At present, there is not enough evidence to support bed rest in the management of pregnant women with hypertension of any etiology. Salt restriction is essential in management of hypertension in the general population but could potentially result in low fluid volume for mom and/or baby and is currently not recommended in pregnancy. Exercise has been associated with reductions in gestational hypertension and lower risk of eclampsia/pre-eclampsia.

There is no one drug that has been shown to be more effective than others in the treatment of hypertension in pregnancy. ACE inhibitors,

angiotensin receptor blockers, and renin antagonists are contraindicated, as they are associated with renal agenesis and fetal demise. Methyldopa is the Food and Drug Administration class B medication for hypertension with the largest literature base, and it is often the first medication attempted. Labetolol, selective blockers, such as, metoprolol, nifedipine, and hydralazine, have also been widely used and are considered safe. Atenolol and prazosin are not recommended.

The choice of antihypertensive should be individualized. In the absence of comorbidities, methyldopa is the first line agent. If there is a history of structural heart disease, β blockers should be tried first. Nifedipine should not be used if there is a history of atherosclerosis. Postpartum, blood pressure should be monitored and

medications titrated down accordingly.

The ultimate therapy for pre-eclampsia is delivery of the baby. Consequences of pre-eclampsia, such as seizures (eclampsia), other neurologic symptoms, renal compromise, and hepatic dysfunction are caused by the placental response to hypoperfusion and are not directly related to blood pressure. Antihypertensives are essential in management, but the treatment of hypertension will not prevent sequelae of pre-eclampsia/eclampsia. Management of pre-eclampsia requires a multi disciplinary approach.

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