

5.3 Management of chronic hypertension and superimposed preeclampsia - Case (15 min)

A 24 year old G2P1 presents to your office for her first prenatal visit at 8 weeks gestation. Her history is remarkable for obesity and chronic HTN for which she takes angiotensin converting enzyme (ACE) medication. Her previous pregnancy was complicated by superimposed severe preeclampsia requiring induction at 33 weeks.

1. How would you counsel her regarding her risk for developing superimposed preeclampsia with this pregnancy?
2. What, if anything, would you change with her anti-hypertensive medication? Why?
3. Is there anything that she can do to try to prevent a recurrence of preeclampsia with this pregnancy?
4. Should you do any baseline laboratory evaluation? If so, what?

Her pregnancy has been relatively uncomplicated and she has been coming to see you regularly every 2-4 weeks. Her blood pressure has been well controlled on labetalol and her baseline labs are notable for a creatinine of 0.7 mg/dL, 140,000 platelets, normal liver enzymes, and no proteinuria.

5. When should she be delivered?

Let's change the scenario a little bit. Let's say that you are monitoring her regularly and at 31 weeks, her blood pressure readings begin to get a little higher with systolic pressures around 150 mmHg and diastolic pressures 90-100 mmHg. She also has 1+ proteinuria on a urine dipstick.

6. How would you manage her now?

A 33 year old primigravida presents for antenatal care at 14 weeks gestation with a blood pressure of 150/95 mmHg. She has no known history of elevated blood pressure or other medical problems. On exam, she appears to be stated gestational age.

7. How would you manage her at this point? Would you prescribe anti-hypertensive medication? If so, which one?
8. Does she need any additional investigation?

On initial investigation, she had no proteinuria. Her platelets, creatinine, and liver enzymes were all normal.

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9. When should she be delivered?

At 36 weeks, she develops severe edema. Her blood pressure remains stable at 140-150/90 mmHg. She has no proteinuria.

10. Should she be delivered now?

She is induced at 39 weeks and has a healthy baby boy.

11. How should she be managed postpartum?

12. What do you tell her about her risk for cardiovascular disease in the future?

Self-Test - Answer Key

1. She is at increased risk of developing superimposed preeclampsia again, as prior preeclampsia is a risk for recurrence. She is also at risk for developing cardiovascular disease in the future. Women with chronic hypertension have a 5-30% chance of developing superimposed preeclampsia during pregnancy.
2. You should stop her ACE inhibitor and start a medication that is not contraindicated in pregnancy for example a beta-blocker, methyldopa, or a calcium channel blocker. ACE inhibitors are associated with oligohydramnios, renal failure, cardiac anomalies, intrauterine growth restriction and other fetal anomalies. For women with chronic HTN and pregnancy, you should try to keep their BP between 120/80 and 160/105.
3. There is some evidence that low dose aspirin (60-80mg started at the end of the first trimester) is helpful in preventing preeclampsia recurrence.
4. If possible in your setting, baseline creatinine, platelets and 24 hour urine for total protein is helpful.
5. There is no need to deliver this patient before 38-39 weeks gestation as she is stable without evidence of superimposed preeclampsia.
6. It now appears that she is developing superimposed preeclampsia. As she is 31 weeks gestation, if possible she should be given corticosteroids to help with fetal lung maturity. We would also suggest checking her platelets and creatinine and if possible a 24hour urine or spot protein. You should increase the dose of her anti-hypertensive and induce at 37 weeks if she does not have severe features. If she develops severe features, the recommendation is to induce labor at 34 weeks and institute Magnesium sulfate therapy for seizure prophylaxis.
7. Because she has an elevated blood pressure before 20 weeks gestation, she has chronic hypertension. As she is not currently on antihypertensive medication, we would not recommend starting her unless she develops blood pressures over 160/105 consistently.
8. Again, a baseline urinalysis, Cr and platelet count are recommended as a minimum for work up.
9. If she does not develop evidence of superimposed preeclampsia, delivery would be recommended after 38 weeks.
10. Edema alone is not considered part of the diagnostic features of superimposed preeclampsia and should not change your management.
11. It is likely that she will need anti-hypertensive medications postpartum even if she did not need them during pregnancy. If she is breastfeeding, it is important to institute a medication that is safe with breastfeeding.
12. She is at increased risk of cardiovascular disease in the future. Although there is no clear evidence for preventive interventions, lifestyle modifications, annual BP checks, lipid evaluation and BMI assessment seems prudent.