

Appendix J: Sample Script: Physician Explanation of Hypertensive Disease Process and Management Plan

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Dr. Druzin: After introducing the health care team, I start by asking the patient if she can tell us in a few words what she understands about preeclampsia and hypertensive disorders of pregnancy (HDP). This will often give me a snapshot of the patient and her family's understanding of the situation and all-around health literacy.

[Overarching description]

Preeclampsia is a disease seen only in pregnant or postpartum women. The main problem your health care team has identified is that your blood pressure is high. There is often protein in your urine, or you may have other symptoms like headache, pain in your abdomen or swelling of your face, hands, and feet.

[Emphasis on safety and protection]

Remember, there are two patients here, you and your baby, and we are going to take care of both of you. And, very importantly, what is happening to you now is NOT your fault and is not because of anything you did or did not do. We do not fully understand why some people develop this disease, and why most do not, although there are many theories.

[Pathophysiological description]

This disease happens because your placenta, which is the organ that develops when you become pregnant and allows your baby to grow from a tiny egg to a little person in 9 months, is not working as well as it should. The placenta provides your baby with blood that contains food and oxygen, which is what we all need to grow and live.

This placenta grows from your egg which attaches to the inside of your uterus, sometimes called the womb. When this egg attaches, called implantation, it sends out little roots, which are new blood vessels, that move blood around our bodies, to connect with YOUR blood to feed the growing baby. You need a lot of blood to allow your baby to grow so fast, from an egg you cannot even see, to the person that will be your child.

The way in which these roots (blood vessels) develop in the placenta has to follow a very specific number of steps. If there are problems with any of these steps, this attachment (implantation) is not fully completed. If these problems occur, you will have a placenta that is not working as well as it should, called placental insufficiency, a big word, which means that it is not able to work effectively. The placenta may not be able to keep up with your baby's needs, and your baby may be smaller than usual. The good news is, that when this happens, your baby will make sure that their brain is getting enough blood and food, by shunting blood from other organs to the brain.

The placenta makes a number of things, mostly good, but sometimes bad. When the placenta starts its life with a poor root system, it gets less blood flow than it needs. This results in damage to the placenta, so the placenta starts producing abnormal bad chemicals that block the growth of new blood vessels that move blood around our bodies. This is a problem, because the placenta needs to constantly produce new blood vessels so it can grow, and feed your baby.

These bad chemicals also attack the blood vessels in YOUR body, and causes them to be narrower, leading to less blood flow to all the organs in your body such as your kidneys, liver, brain, lungs, and heart. Normally, these blood vessels will become wider or narrower, open or close, depending on what each organ needs. If your heart needs more blood, those vessels will become wider (dilate), while the blood vessels going to the kidney will become narrower, so more blood is available to go to the heart. This happens all the time with healthy blood vessels, and we are not even aware of this, because it is controlled automatically.

In preeclampsia, all the blood vessels in your body become narrower; therefore, less blood goes to all your organs, and then they can be damaged, and not work well, or sometimes stop working completely. This narrowing of blood vessels, which are normally very wide to be able to send enough blood to all your vital organs and the placenta, is called vasospasm, and causes high blood pressure, because the heart is trying to pump the same amount of blood through a smaller-sized vessel.

[Definition of key terms]

This high blood pressure is dangerous, because it can cause a vessel in your brain to tear, leading to bleeding in the brain, called a stroke.

These bad chemicals also cause the walls of all the blood vessels to become weaker, and fluid from inside leaks into the tissue around the vessel, and you start swelling, called edema. If this happens in your brain, the brain will swell and you can have a seizure, called eclampsia.

When the blood pressure is too high in blood vessels feeding the placenta, it can make the placenta break off from its attachment to the inside of the uterus, called abruption, and your baby will lose its connection with your blood supply, which it needs to grow and survive.

[Pause for questions]

At this point, you have heard a lot of things, so let's stop and give you a chance to ask questions about what I have just said.

[Communicating a short-term plan, emphasizing safety]

So, we need to do a few things to keep you and your baby safe.

First, we need to control the blood pressure with medication to prevent stroke and abruption. This will be done very soon.

Second, we need to give you a medicine called magnesium to prevent seizures. This will feel unpleasant and make you woozy and sleepy, but patients typically get used to it after a short time.

Third, we need to prepare your baby for possibly being born early, because the only way to begin to cure this disease is to remove the producer of these bad chemicals, the placenta. This means delivering your baby and the placenta.

To prepare your baby for an early birth, we are going to recommend a medicine called betamethasone (or dexamethasone), which is a type of steroid, given as two injections: one now and a second shot in 24 hours.

This steroid goes through the placenta to your baby where it does three very good things:

1. It helps your baby's lungs to mature. It tricks the lungs into producing more of a chemical called surfactant, which is something that lines the cells in the lungs, to keep the lungs open so oxygen can go into the lungs and then to your baby's blood. If you do not have enough of this chemical, the air sacs in the lung will not open up and your baby will not be able to get enough oxygen from the lungs into its blood.
2. The steroids also adjust the blood flow in your baby's brain, which prevents bleeding into the brain, a common problem in premature babies.
3. The steroids also adjust blood flow in your baby's bowel, or intestines, and prevent a problem called necrotizing enterocolitis, or NEC, which is damage to the bowel from not receiving enough blood.

Steroids can reduce these three major problems in babies by about 40%.

[Emphasis on team]

We are going to ask your baby's doctors, called neonatologists, to come and talk to you. They will explain what problems may happen to a premature baby, and how they will treat your baby.

[Emphasis on safety]

So, we have a lot of work to do to keep you and your baby safe, but this approach has been very effective in getting a healthy mom and a healthy baby.

[Summarizing key points, emphasis on safety and team]

To summarize, we will control your blood pressure, give you medicine to prevent seizures, give you a steroid shot to help your baby if it is born prematurely, and make plans for delivery. The timing of the birth depends on how you and your baby respond to our treatments.

If you respond well to our treatment, and your baby is OK, we can delay delivery for a short time.

If you are less than 34 weeks of gestation, we will try and make it to 34 weeks, but you will need to stay in the hospital until delivery.

Between 34-37 weeks of gestation, depending on how severe the preeclampsia is, we may try to make it to 37 weeks.

However, if either you or your baby develop problems, we may recommend delivery at any time, and this will all depend on gestational age at presentation, and your condition.

We will ask your baby doctors to talk to you about what to expect after your baby is born.

We are a team working to make you better and give your baby the best chance for a good life after birth. You and your family are part of this team.

We will discuss everything we plan to do with you and ask for your permission.

[Pause for questions]

What questions do you have?

Improving Health Care Response to Hypertensive Disorders of Pregnancy, a CMQCC Quality Improvement Toolkit, 2021.