

SPEAKER: So in the very, very small amount of time I have, I'll share a few notes about a relevant situation-- pregnancy.

So as we all know, pregnancy causes a variety of profound physiologic changes to the mother in order to adapt to the growing fetus. Some of these effects, including, here-- hypoalbuminemia, increased GFR on the kidneys, transplacental transfer of calcium from the mother to the fetus, increased estrogen levels-- all of that generally tends to cause decreased serum calcium levels during pregnancy.

Now, that's not abnormal. That's just normal physiologic changes. The kicker, as it relates to parathyroid disease, is that these normal changes can mask gestational hypercalcemia and primary hyperparathyroidism.

So thankfully, it's very rare. You know, it's only about 8 per 100,000 women of childbearing age. The problem is that because of this rarity and what I just talked about-- this masking effect-- primary hyperpara when it happens, tends to be, again, underdiagnosed in the pregnant population, as it would be in the general population.

Some studies have shown a lag time between first detecting the hypercalcemia to the diagnosis or primary hyperpara at four to five years. So you can imagine there are some folks that have had pregnancies with hypercalcemia live life, then got diagnosed in the future, or, at the time when they were having obstetrical complications or such, they would find that they had a calcium level that stretched-- high calcium level that stretched back for years.

When the symptoms occur, they can be bad. So it's really important to look out for. So for the mothers, hyperemesis can be much worse in that population. Kidney stones, muscular weakness-- all the normal things from primary hyperpara. One study showed a higher incidence of pre-eclampsia, and that's obviously of huge importance.

For the fetus, there is a higher rate of pregnancy loss. And even in the folks-- in the babies that are born, they can have complications, such as neonatal hypoparathyroidism, which is a very bad thing. It can cause things like tetany, seizures, arrhythmias, ultimately can be associated with mental retardation and low birth weight.

So how did this come about to become a little bit more part of our consciousness? There's a study out of Florida that was published in '09. And they had a-- they're a very large center. They had reviewed 32 women and 77 pregnancies over six years.

And they have found that nearly half of these pregnancies were lost. And that's mostly in the first and second trimesters. And that, when they compared it to the general population or their control groups, was 3 and 1/2 fold higher than the normal.

So they also found that the rate of pregnancy loss correlated with the degree of hypercalcemia. So basically, the higher the serum calcium, the higher the rate of pregnancy loss. Thankfully, that may also mean that the converse is true so that if the milder the hypercalcemia, perhaps the lower the risk, even if you happen to have that disease.

So this was a group in Tel Aviv that published a study in 2013. And they reviewed 74 pregnant women with primary hyperpara, compared it to normal controls. And they found no difference in obstetrical outcomes.

But the caveat was, in this study, they had median calcium levels that were only very mildly elevated. So it could be that mild primary hyperpara can be safely observed without surgery until after pregnancy. But it's still generally regarded that surgery is the default treatment, particularly because it's so safe-- and in particular for mothers and fetuses between late first trimester and early third trimester, when surgery is generally thought of to be safer.

So the main lesson here is not necessarily what type of treatment paradigm to do. But it's important for health care providers, particularly in our OB community, to not ignore hypercalcemia, even if it may be mild, and then to catch primary hyperpara in the pregnant population. Then you can determine what the best thing for that situation is.