Evaluation and Management of Infants of Diabetic Mothers

The prevalence of gestational diabetes is increasing due to increasing rates of obesity. Gestational diabetes increases the chances of adverse outcomes for both the mother and infant.

In this Pediatrics in Practice podcast Jessica Brunkhorst, MD, neonatologist, reviews fetal anomalies and conditions associated with maternal diabetes, describes initial evaluation and management for infants of a diabetic mother, and discusses current recommendations regarding the management of hypoglycemia.

Featured Speaker:

Jessica Brunkhorst, MD

Jessica Brunkhorst, MD, is a neonatal/perinatal specialists at Children's Mercy Kansas City and Assistant Professor of Pediatrics at the University of Missouri-Kansas City School of Medicine. She received her medical degree from the University of Missouri-Kansas City School of Medicine. She completed her residency in pediatrics and a fellowship in neonatal/perinatal medicine both at Children's Mercy.

Learn more about Jessica Brunkhorst, MD (https://www.childrensmercy.org/profiles/jessica-l-brunkhorst)

Transcription:

Dr. Michael Smith (Host): Our topic today, is evaluation and management of infants of diabetic mothers. My guest is Dr. Jessica Brunkhorst. Dr. Brunkhorst is a Neonatal and Perinatal specialist at Children's Mercy Kansas City and Assistant Professor of Pediatrics at the University of Missouri Kansas City School of Medicine. Dr. Brunkhorst, welcome to the show.

Dr. Jessica Brunkhorst. (Guest): Thank you, for having me.

Dr. Smith: Let's talk about gestational diabetes first. Obviously, this is a problem we're starting to see more of. Can you give us a little more insight into how bad this probably really is?

Dr. Brunkhorst: Yeah, definitely after starting to see the rates of obesity rise in the general public, it increases the chances that moms will develop gestational diabetes. With the increased prevalence on the maternal side of things, we're seeing much more complications for infants. That could mean days in the NICU and a host of different issues.

Dr. Smith: Yeah, let's talk about that. What are some of the fetal conditions associated with gestational diabetes?

Dr. Brunkhorst: The two most common ones that we see in the majority of babies are macrosomia or very big, large birthweight babies, and then hypoglycemia and low blood sugars. Those are the two most common complications we see, but especially if the diabetes was preexisting before the mom was pregnant, the baby is also at risk for congenital anomalies like heart defects, and bowel problems, and renal problems and a whole host of other issues, as well.

Dr. Smith: Dr. Brunkhorst, at Children's Mercy Kansas City, run us through the initial evaluation that you go through as the expert in gestational diabetes and taking care of the infant. Run us through your approach to this.

Dr. Brunkhorst: Okay, so first and foremost is close glucose monitoring. If the babies are having issues with hypoglycemia, then we'll either start with D10 boluses to get their sugar up instantly or kind of a slow, steady glucose infusion so that we're not causing big peaks, and valleys and rollercoaster ride with their glucose metabolism. There has also been lots of talk in the literature, and certain places are using that glucose gel to help stabilize the babies on the well-baby nursery side of things. Usually, by the time they have made it to the NICU, we would go with a glucose infusion as opposed to trying other feeding regimens.

Once we get glucose under control, it's really a matter of looking for what risk factors the babies have for other complications. So, if suddenly, we're having issues with oxygenation, does that mean the baby is having a component of respiratory distress syndrome? Does that mean there's underlying heart disease? What does that mean going on for the baby? Really once glucose management is addressed, it's looking at what clinical signs the infant is presenting with and then tailoring our work up from there. Do we need a chest X-ray? Do we need a cardiac echo? Do we need a renal ultrasound, looking at a CBC for macrosomia – or polycythemia, monitoring for hyperbilirubinemia, and looking at all the other complications?

Dr. Smith: Over the last few years where we've had so many advances in technology, in diagnostics, all that kind of stuff, what do you think is one of the best things that have occurred at the hospital when it comes to taking care of these infants that really has improved outcome?

Dr. Brunkhorst: Well, you know, I think just recognizing that hypoglycemia does have long-term effects for the infant and being much more aggressive with the treatment and management of it than we used to be. There are definitely studies out there that are demonstrating that episodes of hypoglycemia that we otherwise would have thought were benign could have long-term effects for the baby. I think really recognition and awareness of the problem and being more aggressive with the treatment and management of it going forward are probably the biggest things. There's talk about doing continuous glucose monitoring for babies and what that might look like, but we're just not quite there yet. I think that this is definitely going to be a hot topic with lots of changes to come in the near future as we are beginning to recognize what could be long-term complications from that.

Dr. Smith: When we talk about high-risk pregnancies -- obviously gestational diabetes falls into that category – tell us a little bit about the types of professionals that you are working with at Children's Mercy. Who's involved with actually taking care of the mom and the infant?

Dr. Brunkhorst: So, definitely the neonatologists can get on the front lines if the baby is having enough issues to buy themselves a trip to the Neonatal Intensive Care Unit, and then depending upon the severity and how long the issues are going on, often times the endocrinologists will get involved. And then if other organ systems are involved such as heart defects, which are common with these babies, then our cardiology team would also be involved. The great part about Children's Mercy is we have all the specialists with easy accessibility nearby, and so they are there to help us when these kiddos

present with complications.

Dr. Smith: So Dr. Brunkhorst, in conclusion, what would you like practitioners to know – specifically community physicians, nurse practitioners – what would you like them to know about managing infants of diabetic moms?

Dr. Brunkhorst: I think that this is definitely a common problem that I'm sure everyone is struggling with both on the well-baby nursery side of things and as well as NICUs across the country and in all areas. I think the most important thing to recognize with management is just we're used to the big babies and the hypoglycemia, but knowing that there's also other issues that we need to screen and look for, such as cardiac disease, and hyperbilirubinemia, and hypocalcemia, and polycythemia, and so just recognizing that while glucose is usually what we first see with these babies that there could be lots of other ongoing issues, as well.

Dr. Smith: Dr. Brunkhorst, I want to thank you for the work that you are doing at Children's Mercy, and also, thank you for coming on the show today. You're listening to Pediatrics in Practice with Children's Mercy Kansas City. For more information, you can go to ChildrensMercy.org, that's ChildrensMercy.org. I'm Dr. Mike Smith. Thanks for listening.