**Episode 61: Journal Club – July 2019**

Dr. Joe Chappelle: Hello everyone, and welcome back. I’m Joe Chappelle and you’re listening to Episode 61 of the OB/GYN Podcast. Today is the journal club for July 2019 and joining me today is Dr. Vai Umesh.

Dr. Vai Umesh: Hi. Nice to be here again.

Dr. Joe Chappelle: Glad to have you back. It took us about three to four months to actually record this episode, so we’re actually very excited. And the paper we’re talking about is *Delayed clamping vs milking of umbilical cord in preterm infants: a randomized controlled trial*. This is by Samantha K. Shirk et al. and it’s from the 2019 May issue of the Gray Journal. So, that’s how long it’s been. I guess it’s only two or three months since we saw it. But we both liked this paper. Actually, to spoil a little bit, I think it’s actually a pretty good paper. Although, we do have a couple quibbles, I think. But I think it’s an important issue. The introduction of this paper does a very, very good job of going through the history of delayed cord clamping and milking. And I think it actually goes through every single paper that’s ever been published on it. Which makes it one of the longer introductions that I’ve read. But it’s still pretty good. I don’t know. Why did you get excited about this, Vai? Why did you want to do it?

Dr. Vai Umesh: Initially, actually, for one of our resident projects, my first thought was to do a project on umbilical cord clamping in caesarean sections. It was a little bit, maybe I bit off more than I could chew, and I was trying to plan an RCT but I think as part of my reading for that project I ended up going through a lot of these papers. And I think this topic is interesting because we all talk about it. It’s well-known amongst Ob/Gyns. But it’s so interesting to me how varied the implementation is. And more importantly, the reasons why people don’t implement them. And I think this paper has addressed some of those issues and can make implementation of this a lot easier for a lot of providers.

Dr. Joe Chappelle: It’s a good point. There was actually, in the recent Green Journal, there was an editorial about studies looking at induction methods and how one of the difficulties we’ve had over the last 30 or 40 years is that everybody uses different protocols with different end points, and so even to do a meta-analysis is very difficult on those. Because for those studies you really need big, big numbers. And so, you need a huge multi-center study, or you need consistent methods that can then be used in a meta-analysis. And I think we went into a little bit of the same thing here. How long is a delayed cord clamping? Is it 30 seconds, is it 60 seconds, is it 2 minutes? Milking, how much do you milk? How many times do you milk before you clamp the cord? And those all can maybe affect it.

Now, to step back a little bit. I guess it was probably about 5 years ago when we really started talking about delayed cord clamping, and that was mostly in term infants who didn’t need resuscitation. And they found some good benefits. The longer you delay, the higher the neonatal hematocrit. It also decreases the rate of intraventricular hemorrhage and necrotizing enterocolitis. It also is, on the flip side, associated with higher bilirubin levels and jaundice. But it seems like for healthy babies that delayed cord clamping is something that should be done for most babies. And that is something that we typically do at Stony Brook most of the time. And then people extrapolated and then said, okay, well, if it’s good for term neonates it’s probably good for preterm neonates too and they have higher rates of IVH and EC. They also have higher rates of anemia, so it probably would be good for them as well. But people were basically taking that data from delayed cord clamping and trying to put it onto the preterm neonates. And now of course those babies are often- NICU’s right there, they’re ready to take the baby, you don’t want to wait one minute before you give them the baby.

Dr. Vai Umesh: Exactly. Yeah.

Dr. Joe Chappelle: So, what do you do? We started this at Stony Brook, like I said, about 4 or 5 years ago, we started milking the cord as opposed to doing delayed cord clamping. And of course, no one really knew, was it the same? Was it dangerous? We didn’t know when people started doing it. And actually, as one of the themes I think, about modern obstetrics is people see one paper and they just start doing something without necessarily knowing all the facts and we put ourselves into a little blind alley. But I mean, there’s a whole lot of stuff in this introduction, different papers and meta-analysis. But is there anything else that really stood out that you want to talk about?

Dr. Vai Umesh: No. I think you got most of it. I think, as you said, the term infants is what everyone was familiar with, but I think the fact that the papers that they mention also highlighted a lot of the preterm neonates that they recommended doing this is in. And I think, to me, that was definitely the area that was more interesting because that’s where more of the controversy comes up. So, I think that motivates this study really, really well.

Dr. Joe Chappelle: Yeah. I think if they set up what their question is and why they’re doing it… Now, one thing I do want to mention is this is a study done in a developed world with developed world issues, and not an undeveloped world- not to say they aren’t developed, but the less developed world. And I think we need to keep that in mind. That the benefits of delayed cord clamping with the anemia and that stuff, that may be much, much more important in other places than it is here, where we have in general good nutrition, we have good healthcare, bla, bla, bla. If you’re in a place that doesn’t have those, you might take that risk of the hyperbilirubinemia and jaundice in order to get all those other benefits. Just something to keep in mind.

Dr. Vai Umesh: Exactly. Right.

Dr. Joe Chappelle: Alright. So, the primary objective of the study was to compare the effect of delayed clamping vs milking of the umbilical cord on the hematocrit concentration in preterm births between 23 and 34 weeks. So, that was really just the hematocrit was their primary objective. And the secondary objectives were a composite outcome –everyone knows how much I love composite outcomes– of intraventricular hemorrhage, necrotizing enterocolitis and the need for transfusion. So that was that. Alright, so moving into how they did this study. Like I said, they randomized people, mothers, who were at risk for preterm birth between 23 and 34 weeks, 34 and 6. It was all done at one institution. They do mention that it’s mostly a resident-based, so Medicaid practice.

Dr. Vai Umesh: Yep.

Dr. Joe Chappelle: Not sure how much that matters but it is in there. I guess they have different risk factors, so it was something to keep in mind. They did exclude people who had category 3 fetal heart rate tracings, placental abruptions, other reasons for anemia such as Parvovirus infection, although how common was that, I don’t know, but it’s still good exclusion criteria. And they also excluded major congenital anomalies, which was just really… Again, not all of the things necessarily needed to be excluded but by excluding them they make their population a little more homogenous and easier to get a result out of.

Dr. Vai Umesh: And, of course if they patients delivered elsewhere, which they would have no idea to regulate that the protocol was followed.

Dr. Joe Chappelle: Right. So, they did a 1 to 1 block randomization. And there was either delayed umbilical cord clamping for 60 seconds or milking the cord 4 times before clamping. And we will get into that in a minute. Once that people were randomized, they basically had an envelope, a sealed envelope that had their assignment in it, and when they went for the delivery, they would open that and decide which group they were in.

Dr. Vai Umesh: Yep. Exactly.

Dr. Joe Chappelle: The study was standardized, like I said about how they actually did the two arms, so I’ll talk about that for a second. During a caesarean delivery the infant was held at the level of the maternal abdomen and for vaginal deliveries at the perineum which is a standard practice for delayed cord clamping. The delay clamping protocol consisted of palpation of the neonatal heartrate at the umbilical cord insertion for 60 seconds. So, they essentially are allowing the 60 seconds delayed cord clamping, but they’re also evaluating the neonatal heartbeat while they do that. Presumably if it’s very low, then they would stop doing that and give the baby to the NICU team.

Dr. Vai Umesh: I also liked that they used the infant warmer as a way to regulate that in terms of timer because almost every delivery room will have that. So, this way, it wasn’t subjective, it wasn’t someone using their phone or a timer. It was kind of a standard way that they would set the 60 seconds.

Dr. Joe Chappelle: Right. And it makes sense because the NICU staff’s going to be there for all of these deliveries because they’re all less than 34 weeks, at least that’s how it is in our hospital. And they always mark deliveries because they want to do the Apgarss. They’re going to do the one-minute, five-minute Apgars. So, they were already timing that. So, it just made sense to use what they were already doing. And then for the milking, they stripped approximately 20 cm. umbilical cord from the placental end to the infant’s end, which makes sense. They did it four times, allowing for refill each time before doing it again. And they took that from other studies.

Dr. Vai Umesh: Right.

Dr. Joe Chappelle: Then, they collected all the data. They did a sample size and they powered it for a 3% difference in hematocrit between the two groups, which is decently small, so it’s pretty good. And the sample size determined to be 200, and then to account for 50% dropout, they went to 232.

Dr. Vai Umesh: Which is pretty good, because if you look at the… They have a nice table where they talk about how many people they ended up getting and they definitely… They consented 282 of which 204 completed the protocol, so they were close to the range that they were hoping for.

Dr. Joe Chappelle: Right. I mean, something they do say is that they had a higher than anticipated number of patients who were excluded, so they actually kept recruiting past the 232 in order to get to their 200 sample-size. And that, you know, when you’re doing research design, sometimes you are randomly choosing those numbers to put into your analysis. Like, how much the difference is going to be? Well, based on the previous literature… Well, sometimes previous literature isn’t really applicable to your population, so you end up underestimating or overestimating. You estimate a 50% dropout, okay, well, you haven’t done the study before, so you really don’t know. So, you make a stab at it and theirs ended up being higher, but they just kept recruiting. So that just kind of showed you real research applied there. Really no harm there.

And then, statistical analysis. This is actually one of the better paragraphs about statistical- I’m not going to read it because it makes a really boring reading. But if you’re interested in how to write your paper –your analysis section– this is actually a pretty good one. Because they really lay out all the different tests they do. They talk about testing for anomality. They talk about which test they used for normal and non-normal populations. So, very nicely done.

Then they do talk about the fact that they did an intention to treat analysis strategy, which means that whatever group that they were randomized to, no matter what they actually got done during the delivery, they analyzed them as part of that group. They also went back and did do a post hoc analysis separating them by the actually intervention they received and they would report both of those. It really didn’t end up mattering.

Alright, before we go into results, any concerns about their methods? Anything that you would’ve liked to see either done differently or any bias you can see that’s come out of that?

Dr. Vai Umesh: One of the things that they addressed was the fact that they mentioned the people that ended up getting a different kind of intervention than the one that they were previously expected to get, but the fact they did that post hoc analysis I think circumvented that problem. And they showed us that it didn’t really matter. That even though one group –say, a patient– was supposed to get delayed cord clamping but ended up getting milking, they accounted for that difference in intervention. And I think some of these that you mentioned, the fact that there was a pretty high number of patients that were excluded, and actually many that didn’t even meet eligibility, they started with a population of almost 4,000 and they came down to 200. So, that seemed like a pretty large drop. But other than that, I don’t see any huge issues I had with how they conducted the study.

Dr. Joe Chappelle: Okay. There is one thing –and they’re going to bring it up at the end, but I guess we could bring it up now– was, you know, they chose a pretty big, broad range of gestational age from 23 to 34 weeks. And there are differences there in outcomes. The more premature are more likely to have the necrotizing enterocolitis and the IVH, which are some of the secondary outcomes. And so, one thing they did not do is they did not randomize…

DR. VAI Umesh: Stratified.

Dr. Joe Chappelle: Stratified by gestational age. And they ended up looking at that at the end, and the groups were relatively close, so it probably isn’t that big of a deal. But that may be something that they wished they had gone back and done when they were initially setting up the randomization just to make sure that they would have even gestational age groups.

Dr. Vai Umesh: Definitely. And I mean, in light of that, they also do mention they were underpowered for what you just mentioned, IVH, necrotizing enterocolitis. We’ve talked about this before is some of our research projects. The numbers that you need to be able to find differences in those outcomes sometimes can be prohibitively high for a project. So, I understand why composite scores are used. But perhaps if they had stratified by gestational age, they could have found differences in those outcomes with a smaller number of patients. So, it’s interesting. I think that that would’ve been more interesting than reporting the composite score, because everyone reports a composite score.

Dr. Joe Chappelle: Well, you do make a good point there. And I think it’s one of the issues that we have in OB literature right now, is this kind of secondary objective creep, where there are all these secondary objectives which the study is not powered for. And I’m starting to come around to the opinion that if your study is not powered for something, it should not be listed as any objective, whether it be primary or secondary. And I’m not sure exactly how I feel about that yet, but I think that I’m coming around to that. It’s not that you can’t report those things. And if you do find something that is significant, well then, it’s great. But to say that there is no difference, you can’t really do that if your study is not powered for it. And so, I don’t know. But it’s something to keep in mind when you’re reading a lot of OB papers these days.

Okay. So, then we’re going to go into our results. As you mentioned, they ended up with 104 in the delayed cord clamping group and 100 in the milking group. And the ones that actually got that, so 78 out of the 104 actually got delayed cord clamping and 67 out of the milking actually got that, so it’s a little bit less in the milking than in the delayed. Now, to come back to our power analysis, again, I think there is another issue here. The study was really powered to have 100 in each group who got the outcome, who actually got the right intervention. And they don’t have that here. And so, you could argue that their study is really still not powered for what they wanted. So, I don’t know. How do you do that? You randomize and… I guess once they’re randomized and that they do the thing you can actually see if they got it or not, you might actually want to keep enrolling until you have 70, 80 who actually got the outcome, the intervention, or 100 in each group, you know?

Dr. Vai Umesh: Right. To give yourself a margin, essentially.

Dr. Joe Chappelle: Yeah. Well, you want to get to that 100 in each group because that’s really what your power said you wanted, and if they didn’t get the intervention, then they didn’t get the intervention. So, anyway. Alright, so, breaking it down, gestational age, the average was 32, there was no difference between the two groups. They didn’t find a statistical difference, even breaking down between 28 and 34 and 9, and 23 and 27 and 9, they were the same. Birth weight was the same across all groups. The arterial pH, Apgars at both one and five minutes were the same. Mode of delivery was the same although there were a few more operative vaginal deliveries in the milking it didn’t reach significance, because there were none in the delayed group. Indication for delivery, again, there was no difference. We’re going to see a lot of no difference here. Going into the neonatal outcome in the delayed clamping and milking groups, there was no difference in hemoglobin concentration. There was no difference in hematocrit, although it was a little bit close with the milking having 51.8 and the delayed having 44.9 with a p value of .07 so that was close. As they like to say, “approaching significance.”

Dr. Vai Umesh: I know. I found that funny. When most papers say that there’s no difference but there’s a trend towards this, I guess in my head, I’m a little bit more black and white, with if it’s not significant, I tend to not… I don’t really care that it’s approaching significance. But with what you said, perhaps, had they reached 100, maybe that would be an avenue where they would’ve seen a small difference.

Dr. Joe Chappelle: Right. There’s a great paper, and I think it was in… I want to say it was in Nature, but I can’t really- Oh, maybe it was in PLOS, but anyway. They were talking about significance. Talking about that .05 or .01 or whatever you want to use, and to keep in mind that it’s just arbitrary. We have arbitrarily chosen in most papers, and it just kind of become de facto that it’s .05, but we could have chosen something else.

Dr. Vai Umesh: Right. Yeah.

Dr. Joe Chappelle: And so, just because it’s .07 doesn’t mean that it may not be significant. It’s just that we have chosen .05 as our cutoff. And even at .01 there’s still a 1% chance that that’s a mistake, that it’s not actually significant. Just something to keep in mind. So, .07… I usually do get a little annoyed when I see “trending toward significance” or something like that, but I’m mellowing a little bit on it now, because if it is .07 or .06, I mean, that’s close. And so, maybe more numbers would’ve borne that out to actually be significant. Or maybe not. It could go either way. The error can go either way on that.

No difference in peak bilirubin, no difference in the babies that received phototherapy, temperatures were the same, transfusion was the same, necrotizing enterocolitis was the same and we’ll stop there for a second. So, 3 out of the milking group and 6 out of the delayed group. And so, again, as we were talking about, in order to really see a difference in those numbers, because there is actually double the number of nec in the delayed group, but there aren’t enough numbers in the study to make that significant. And IVH follows a similar trend. There’s 10 in the milking and 16 in the delayed, but the p value there is .35. Again, you know, with 1,000 people, maybe there would be a difference there. No difference in NICU stay, no difference in death before discharge and then no difference in their “composite morbidity.”

One of the… I’m going to stop there. This was basically the findings of the… Actually, the last part. Then they go into what the actual interventions. Now they’re only looking at people who got delayed and people who got the milking. And again, they found no difference. The only thing that was slightly different was in the delay group that was 9.1 versus 8.5 repeat bilirubin concentration with a p value of .09. And that was the only thing that was even remotely significant there. Everything else was the same.

So, let me go back and ask about this trial here. They found no difference between the two groups, which is great. What was their purpose here? Why do you think they wanted to do this study?

Dr. Vai Umesh: This is why this paper was interesting to me. Because I think that milking, in my opinion is an easier method to implement for several reasons. One, I think that practitioners feel better when they’re doing something. I think Ob/Gyns are notorious for being terrible at waiting. So, when everyone is just waiting for something to happen it isn’t done as well as if I’m physically milking, it makes me feel like I’m performing an intervention. I’m more likely to do that count, even look at the strip of cord I’m stripping to milk as opposed to just watching the timer go off from 30 to 60 seconds. So, I think the implication for me was similar in this paper in that they see… If you show that milking is equivalent to that of delaying and more people are likely to be compliant with milking, perhaps that is enough impetus for this to get implemented and us to have the same outcomes for our babies.

Dr. Joe Chappelle: I agree with you. So, what I think about this is that we already know that delayed cord clamping is good, right?

Dr. Vai Umesh: Right.

Dr. Joe Chappelle: So, we want to know… because milking seems to be easier to do, it’s faster.

Dr. Vai Umesh: Right. More importantly.

Dr. Joe Chappelle: Right. And by “easier”, I mean, it’s more like you said, that we’re more likely to actually do it because we’re doing something. And it doesn’t take a minute. I think they said six seconds per milk so six times four. So, you do that and then you give the baby to the NICU. That’s a much faster thing. NICU’s not standing there waiting for the baby, pressuring you, all these things. As long as milking is not inferior to delayed, then maybe we want to do milking. So, that got me thinking, why did they do the study this way? And why didn’t they do it as a non-inferiority trail?

Dr. Vai Umesh: They mentioned that. They actually say… I wonder if they knew that these were the results that they were going to get. Honestly, perhaps they went in thinking that one was going to be superior. But they definitely mention that in the paper saying one of the limitations was because it was a negative study, so to speak, it should’ve been done as a non-inferiority trial.

Dr. Joe Chappelle: Right. Even design-wise… and let’s say they really thought that milking was going to be superior to delayed, then I would’ve done it as a non-inferiority. Which is funny, I actually reviewed a paper recently –I don’t want to say too much because I don’t want to get in trouble– but they did a non-inferiority and my big thing was, well, your alternative treatment isn’t actually superior in any way. It’s not cheaper, it’s not easier to use, it doesn’t have less side effects, so why are you doing a non-inferiority trial there? Because the only reason to do a non-inferiority is because the alternative treatment is better in some other way and you want to make sure it’s not clinically worse than the thing that you’re looking at.

Dr. Vai Umesh: Correct. But with respect to what we just said, even though I believe that milking would’ve been easier, and more people would’ve gotten on board, they mentioned that their compliance with milking… They said 25% of people that were supposed to get clamping didn’t and 33% who were supposed to get milking didn’t. And they attributed this to practitioner discomfort, maybe they weren’t aware of how to do things, so it actually wasn’t in line with what I thought would happen. I thought the dropout rate, essentially, for milking would be lower than that of delayed clamping.

DR. JOE Chappelle: True. But you’re also –we don’t know this institution– but if everyone had been doing delayed, you’re now fighting against what the normal practices of this hospital. That can be uncomfortable to people. People hate change.

Dr. Vai Umesh: Right. And actually, what I mentioned with you too, I actually don’t know how you milk after a vaginal delivery with one hand. Unless they’re implying… They want the baby to be at the level of the perineum. So, if that’s the case, then effectively the person who’s delivered the baby is holding the baby there. And then there’s this variable segment of cord. So, how do you do that with one hand without causing excessive traction? Is someone else holding the baby there when you milk? These are just practical questions that I would have wanted to know the answers to.

Dr. Joe Chappelle: I mean, they do say this is mostly a resident population. And so, presumably there’s a resident and an attending there, if not two residents or medical student or something. So, maybe they can do that. I mean, I’ll be honest. In my private practice, when I was doing even delayed cord clamping, I didn’t hold the baby at the perineum. I put the baby on the mother’s abdomen and let it go that way. I mean, either the placenta is still pulsating and pushing blood down the cord or you are physically milking it towards the baby, the three or four inches in height difference really shouldn’t make a difference. In fact, in c-section, where’s the baby? On the maternal abdomen. Of course, I guess the physics there are a little different because the cord is not going through the vagina, but it’s still elevated above the placenta. So, I don’t know. I feel like there’s… You can probably just put the baby on the abdomen. But that’s not how they did the study.

Dr. Vai Umesh: Right.

Dr. Joe Chappelle: Alright. Let’s talk about their strengths and limitations. And you read this more recently than I did. So, what did they find for their strengths and limitations?

Dr. Vai Umesh: So, strengths, this is a randomized controlled trial, which always adds to the strength of any paper. The fact that they looked primarily at preterm infants, as we talked about, a lot more studies are out there about term infants. But they selected their population to address one that had not been studied as extensively. And from what we understand, they more or less standardized their delivery protocols. They tried their best to have very strict criteria as to how these interventions would be performed. So, even if practically, say you put the baby on the maternal abdomen, I think all the people who underwent the intervention did it all the same way and that always is important when you compare outcomes.

In terms of limitations, I think one we briefly touched on, given it’s a negative study, considering a non-inferiority design would’ve been helpful. They also talk about how the study was really powered to evaluate the difference in hematocrit, which is effectively a surrogate for the need for transfusion. But it was underpowered for some of the other more interesting outcomes, mainly because of the clinical significance. Necrotizing enterocolitis, IVH, neonatal death, these, although rare, have much more serious implications and are a clinical significance compared to necessarily the difference in hematocrit. And, honestly, we touched on all this already, a lot of it is stratifying, focusing more on the less than 28 weeks gestation because there’s a very low number of participants in this group. I think they mentioned 14.2%, which is low given the overall number of people in the study.

Dr. Joe Chappelle: Okay. I mean, you’re right. We basically went through all that already. It helps it’s a pretty straightforward paper. One thing I’ll say about the non-inferiority trial is that typically, with a non-inferiority, your numbers are actually smaller. So, your power analysis will have a smaller number of women to include or babies to include. And so, actually if it had been designed that way, they actually might have been powered sufficiently to show that there was no difference between the two of them. So, that’s one thing. We could actually probably do that power analysis for them and see… It’s kind of illegal to do it afterwards, but we could do that.

And then, I think you’re right. I think that the same study could be done between 24 and 28 weeks. Maybe with the same numbers, need 100 in each group. And then maybe we’ll see some of those differences in nec and IVH.

Dr. Vai Umesh: And one more I want to add, strength, that I thought was the fact that they did that ad hoc analysis, like we talked about, and they noted similar outcomes when the data was evaluated by the actual intervention rather than the intention to treat. Which I think helped them account for some of the lack of compliance in either treatment group.

Dr. Joe Chappelle: Right. And we didn’t say this but when they did that ad hoc at the end there were 112 who got delayed and 73 who got milking so you can see that there were some in each group that got the opposite treatment than they were supposed to. When you look at 112 and 73 it’s a little bit better than just looking at the other number.

Dr. Vai Umesh: 78 and 67, yeah.

Dr. Joe Chappelle: Right. Alright. So, I mean, I guess the questions I always ask myself at the end of a journal article is, one, do you believe the result? So, we’ll start with that. What do you think?

Dr. Vai Umesh: I think I do. I mean, they didn’t report anything that I haven’t already come across in some of the reading that I’ve done. So, I’m more inclined to believe this result because I’ve seen it consistently.

Dr. Joe Chappelle: That’s good. So, you’ve got some confirmation bias there.

Dr. Vai Umesh: Exactly. And, as I said, clinically it makes sense to me. I think what they’re showing… I do agree with you that perhaps this study would be more interesting if they were to increase the number of participants and maybe that would increase the relevance of this study. But for what they set out to do, comparing the two and telling me they’re both equivalent, I as a provider, am probably more likely going to milk than delay and if that is going to confer the same benefit, milking is better than nothing. So, therefore I’d probably do that. So, it changed my view on what I would do.

Dr. Joe Chappelle: Okay. So, that’s pretty good. I agree with you. I think I believe the results. And you’re right. I mean, it goes along with what I expect the outcome to be, which I always worry about, because like I said there is confirmation bias there when something tells me something that I already believe, so I’m more likely to believe it. And then next is do you think that their population is our population?

Dr. Vai Umesh: They talk about… I guess I’m not really sure what the population in Cincinnati, Ohio is but the fact that they talk about it being primarily a resident population is already somewhat analogous to the population that we see. So, I’m inclined to believe that is the biggest commonality between the two.

Dr. Joe Chappelle: Okay. I mean, we’d have to go back and look what our preterm delivery patients are and what their demographics are but, in their group, they were 37% Black, 57% White, a little bit Hispanic, some unknown and .5% Asian. Ours is more heavily skewed towards Hispanic than Black but we’re overall relatively similar. Maternal age was, let’s see… There’s 16% that were advanced maternal age, 10% had diabetes, 13% chronic hypertension and 32% had preeclampsia. So, I mean, again, I’d have to go back and look and see… I know what our population is like for total, but this is a very specified subgroup here. And the preeclampsia rate and the diabetes also is probably going to be higher in that group anyway. But nothing’s crazy there. And even their overall rates. So, they had 4,200, 4,300 almost women who delivered during that time period, and 310 who were preterm. So, it’s an 8% preterm delivery rate, which is about in line with what we have.

Dr. Vai Umesh: Right. The other interesting thing –and I guess I don’t know if this matter as much– but I always wonder when people are doing the protocol, what percentage of the attendings were MFM providers versus generalists. Were the MFM providers more or less likely to engage in this trail? Or were they more likely to do one intervention versus the other because of their inherent biases compared to generalists? This is something that I’ve always been curious about when we do these kinds of analyses, because I think there is a difference in how things are implemented based on one’s level of training.

Dr. Joe Chappelle: Fair enough. That is an interesting point. And I can see the kernel of a research idea in there coming. We’ll have to talk about that offline. And so, the last question is, and you kind of already answered it, but are you going to implement this in your own practice?

Dr. Vai Umesh: Yeah. I think so. Especially during c-sections. I feel like that is where, in my limited clinical experience I have seen us in the midst of delivery just… forget to delay and delaying in a surgery when everyone is just watching the hysterotomy bleed. Even if people have shown that there’s no difference in maternal blood loss with that waiting, it’s a lot harder for people to do. And I think milking is quick. A total of six seconds. It can be done just before we clamp the cord. And I think I’m going to try it for the next five weeks that I’m on OB and see how easy it is to implement and how easy it is to get other providers on board to do it.

Dr. Joe Chappelle: So, the next question, do you think we should make this a protocol for our institution?

Dr. Vai Umesh: Well, I’m biased because I love protocols and I love implementing new protocols. But I think that it would be worthwhile. I feel like the… I want to say the bridge, is that we at Stony Brook do a lot of evidence-based discussion of guidelines. We do great journal clubs. We talk about these things frequently. But there is a gap between that discussion and how it’s actually implemented. And I’ve noticed this with even some of our projects that we do as residents. If we find statistically significant findings, the implementation is where there is a gap. And some of it is of course lack of education, lack of protocols. So, I believe for putting in the time to review the research and people are putting in the time to do the research, why not implement it?

Dr. Joe Chappelle: Alright. Let’s do it, then.

Dr. Vai Umesh: Okay.

Dr. Joe Chappelle: We’ll report back on that sometime in the fall about how are we doing to get everyone to milk the cord four times in preterm deliveries. So yeah. Overall, I think this was a very good paper. It was very well written. I liked the design of it. I really didn’t have too many issues. Again, there are issues in retrospect that we can bring up, but sometimes you don’t know those issues until you’ve done this study. And they do a very good job of articulating those issues that came up either while they were doing the study or afterwards, so I can’t fault them for that. Alright, any final thoughts on the paper?

Dr. Vai Umesh: No. I think this was a great study. I’m glad we finally got a chance to talk about it. And as I said, I hope something changes in our practice at Stony Brook, which would make it even more exciting to have reviewed this.

Dr. Joe Chappelle: Absolutely. And if any of you listeners out there, if you have experience with doing this at your hospital or doing these protocols and it’s something you want to talk about or you want to send us some feedback remember you can send everything to [feedback@obgyn.fm](mailto:feedback@obgyn.fm). I’d love to hear from you all if you have any… even ideas for future episodes, then please let us know. I think finally, maybe next week I will put out the first episode of my diabetes in pregnancy. I know, it’s been like six months I’ve been saying that, but I think I’m finally going to do it. And until then, I want to thank Dr. Umesh for coming on and talking about the paper with me.

Dr. Vai Umesh: Absolutely. Always happy to be here.

Dr. Joe Chappelle: And thank you all for listening, and we’ll see you back next time.