Episode 17 – Anaesthesia and Pregnancy

(Intro) Alan: Do you have upcoming surgery? Are you feeling a little bit overwhelmed? Then this is the podcast for you. Welcome to Operation Preparation. You are listening to the Pre Anaesthetic Assessment Clinic podcast, or PAAC for short, from St. James's Hospital, Dublin. Here we put together a series of short episodes to help you, your family and your loved ones learn more about your upcoming perioperative experience.

Aislinn: Welcome back everyone. My name is doctor Aislinn Sherwin, I am a Consultant Anaesthesiologist here in the Pre Anaesthesia Assessment Clinic in St. James' Hospital and with me hosting today is doctor Julie Barrett, one of our anaesthesia junior doctors. Today on episode 17 of Operation Preparation, we are delighted to have two guest speakers across from the Combe Hospital. We have doctor Noelle Healy, former All-Star Dublin footballer, who is a Consultant Anaesthetist and Ms Raji Dominic, who is an Assistant Director of Midwifery and Nursing and they're going to answer all of our questions around anaesthesia and the pregnant patient.

So, welcome Noelle and Raji to the podcast. A big topic to get through today, so I suppose we'll have to start from the beginning. What is it about having surgery during pregnancy that makes it different from having surgery at any other time in your life?

Noelle: Thanks Aislinn. Well, firstly, unlike having an operation when you're not pregnant, there are some normal changes of pregnancy that may change the type or the way we give an anaesthetic to women who are pregnant.

Julie: Great, thanks Noelle, that's really interesting. Can you tell us, what are these changes and how would they affect the type of anaesthetic you give?

Noelle: Well, women who are pregnant or have previously been pregnant will know the changes it brings to their body. These are what we call physiological or normal changes of pregnancy and are simply the changes that happen to different systems in the body to allow the baby to grow. As anaesthetists, we are aware of the way pregnancy can change the body and so we take these into consideration.

Aislinn: Well, that's very reassuring. It's great to know we're in such safe hands. So, can you tell us a bit more about the kind of things you need to be thinking about when anaesthetising a pregnant person?

Noelle: So, most women will know they experience heartburn during pregnancy and this is because the baby in the womb, along with increased levels of normal hormones in pregnancy can affect the way food empties out of the stomach. For this reason, we need to take extra precautions, such as giving antacids or anti-reflux medications before surgery. We also give pregnant women an anaesthetic in the same way that we would do in an emergency surgery patient, like they are unfasted or have a full stomach. To do this, we give medications in very quick succession in what's called a rapid sequence anaesthetic.

Julie: Thanks, Noelle. Just for everyone listening, we can refer back to episode 7 of the podcast for all additional details about fasting. Is there anything else that changes in the body with pregnancy?

Noelle: So, women will know that their feet are more swollen, but also their breasts and other areas such as the tongue or throat might swell slightly, even if you aren't fully aware of it or notice it yourself. Rarely, but slightly more commonly than in the general population, this can make it more challenging to place a breathing tube that we use to support your breathing in your throat when you're under an anaesthetic.

Finally, when you lie flat and when the baby has grown big enough, which is usually around 16 to 20 weeks of pregnancy, the baby can also flatten or compress the big vessels in your tummy that bring blood from your feet all the way back to your heart and this can cause your blood pressure to drop. So, we will place you on a slightly tilted position to the left to prevent this from happening.

Aislinn: So, there's a lot going on definitely. What type of anaesthetic then do women usually have when pregnant?

Noelle: Well, like any operation, this depends on both the type of surgery needed and on the individual woman having surgery. If possible, and if mum feels okay to be awake during surgery, we can use that regional anaesthetic that was mentioned in a previous episode with doctor Ben. This may be possible if the surgery is on a limb or the lower abdomen, such as if you have a broken arm or leg or when you come for a caesarean section. And this way we numb or anaesthetise the woman from the breast down to your toes by giving an anaesthetic into the fluid that surrounds your spine and this is what we call a spinal anaesthetic. The other type of anaesthetic we can give is a general anaesthetic where you're put completely asleep and we place a breathing tube to help support your breathing while you're having your operation.

We will just make a few adjustments and take extra precautions so that we can do this safely, including the stomach tablets that we mentioned earlier and I know these kind of anaesthetics are covered in episode 3 for anyone who wants to have a listen back.

Julie: Thanks so much Noelle, that's really insightful for all of us. So Raji, let's focus on some particular operations. Caesarean sections are by far and away the most common surgery that women who are pregnant have. Can you talk us through what this experience might be like?

Raji: Absolutely. Currently about 40% of women deliver by a caesarean section in the Coombe, either planned or emergency. If it is planned in advance it is called an elective caesarean section and you will be referred to the anaesthetic pre assessment clinic to meet an anaesthetist who will ask about your medical history, any pregnancy related issues such as diabetes and will discuss the best method of anaesthesia for you.

Aislinn: And if you have a listen back to episode 2, it can tell you a little bit more about a pre assessment visit and how to prepare for this appointment.

Raji: In the clinic you will be provided with two tablets called omeprazole, one to take the night before and one the morning of your surgery to help neutralise the acid in your stomach. Those who are not diabetic will be given two carbohydrate drinks to take on the morning of your surgery. You will receive a phone call the day before your caesarean section telling you what time to come to the hospital and what time to take the drinks.

Most women come to the hospital fasting on the morning of the caesarean section, which means no food for 6 hours. We do have a sip till send policy as well that I know you have spoken about in a previous episode. So you can have a little bit of water each hour before we bring you over to the theatre.

When you go to the theatre you will meet a midwife who will check you, your ID band and details before you meet your anaesthetic doctors. In theatre, the anaesthetist will insert a cannula, a drip line into your hand or arm, and we connect you to monitors for your heart rate, blood pressure and oxygen levels. The most common method of anaesthesia for caesarean section is called a spinal anaesthetic but general anaesthetic is given to those who with certain conditions such as bleeding disorders, disorders of the spine or brain or if there is a strong preference to not be awake.

Aislinn: So Noelle, can you tell us a little bit more about the spinal anaesthetic and what a pregnant person can actually expect on the big day?

Noelle: So a spinal anaesthetic is a one off back injection of numbing medicine or local anaesthetic into the fluid that surrounds the spinal cord. It is generally performed sitting up in a slouched position. First your skin is numbed by injection before the spinal is given and this sometimes stings for a few seconds before going numb. Once the medicine is in it takes a few minutes before it's fully effective and we do several checks like asking if you can lift your legs and we also use a cold spray in your stomach or chest to assess how well the spinal anaesthetic is working. We generally expect your legs to feel heavy and that you lose the ability to sense cold spray on your stomach up to the level of the nipples. At this point you will have a urinary catheter inserted into the bladder in order to drain urine as you won't be able to empty it as normal while the spinal anaesthetic is working. Once we are happy that the anaesthetic is working effectively we bring your partner in to sit beside you as you start the procedure.

Aislinn, I think you can speak to personal experience here. Would you be able to describe what you feel when you've had a spinal anaesthetic and what the surgery is like?

Aislinn: Thanks Noelle. So yeah, I've had two spinal anaesthetics for caesarean sections and they were both very comforting for me as a patient. It was in a very strange position to be the patient instead of the doctor in those circumstances. So I suppose the main thing is I was talked through exactly what was going on even though you could assume that I'd have experience of it before so it was nice to be treated as a patient as well.

So after the spinal went in and I lay down they made sure that I was very happy that I couldn't feel any pain before they started and while the operation itself went on I could feel

kind of some touch and some tugging in things but I had no pain throughout the whole experience. It was really, really amazing actually. It's nice to be able to be awake and to be talked through the procedure as things are happening so you know exactly what's going on and you're fully informed all through the caesarean section.

Julie: Thanks so much Aislinn, it's really great to hear your personal experience here today too. So moving on from there, once the baby is born where do they go during the surgery?

Raji: Once born we do delayed cord clamping, which you might have read about. Once the cord is cut all babies go to the incubator to have their checks done and if all is well we will bring baby over to you and your partner and can help you to skin to skin while the rest of the surgery is finished. We are also very happy to take some pictures of three of you. At the end of the surgery as we are getting you cleaned up and transferred over to a regular bed your baby will often be wrapped up in a blanket and brought out with your partner by a midwife prior to you going to the recovery area for a period of observation. You will be reunited with your baby then and you will get to enjoy those all-important cuddles and the baby's first feed.

If you need a general anaesthetic for your surgery from the get go or if for any reason your spinal anaesthetic doesn't work well enough we will put you to sleep to safely carry out your surgery. You are only asleep for the length of the time it takes to do the procedure and we wake you up immediately afterwards. If it is decided that a general anaesthetic is the safest type of anaesthesia for you and baby during an emergency caesarean section baby will be a little bit sleepy or anaesthetised when they are born because some of the anaesthetic will have transferred to them. We also let the baby doctors know this and make sure they are there for the birth to support baby until the anaesthetic wears off. This is usually only for the first few minutes after birth.

Aislinn: Thanks Raji. It's really reassuring to hear that the baby is also looked after in this whole process too, but a big worry for many people coming for surgery is pain. So, Noelle maybe you can speak to whether the caesarean section is actually a sore operation or how the pain relief is managed after surgery for that.

Noelle: A c-section is a major operation so it is important to expect some pain afterwards. However, we have a very good pain management plan that will be in place to make sure that we can control your pain so you can look after baby.

In terms of pain relief for afterwards we generally start to give you paracetamol and an anti-inflammatory medication like neurofen or difene during the surgery so that it is in the system even while the spinal is working. There is also some morphine in the spinal anaesthetic which can give you pain relief for up to 24 hours. Some people might find they're a little itchy with this but it generally settles over time as the spinal wears off. If you find it very distressing or annoying we can give you some medications to help manage this. You'll also be prescribed a tablet called oxynorm to take every 4-6 hours as you need. And this is a strong painkiller related to morphine and it's prescribed for the first few days after a caesarean section and the doses prescribed are safe even if you're breastfeeding.

If you haven't had a spinal anaesthetic we often do pain relief injections in the tummy while you're asleep. These are called blocks and the aim is to provide temporary numbness of the site of your wound incision to minimise your discomfort. This is in addition to pain relief medication attached to your drip line called a PCA a patient controlled analgesic. You'll be given a button to press for when you need a top up of pain relief. There is a safety lock in the system which means you cannot take more than the prescribed amount.

I appreciate this is a lot of information and it can be a nervous time for patients and their partners but there is a video on caesarean birth on the Coombe website which is a nice summary of what you might expect.

Julie: Thanks so much Noelle, that's really insightful. Women going to the Coombe for a c-section might read about enhanced recovery after caesarean section. Can you tell us a little bit more about this Raji?

Raji: Enhanced recovery after caesarean section is a pathway we have brought in to help you recover more quickly after your surgery. It is based around the idea that by making small changes at different points of your perioperative journey, we can make a big difference to how you recover after surgery. There are three parts to this. The before, during and after surgery.

We focus on things like preparing you well in advance of surgery so you're mentally prepared and feel empowered as a part of the team during your surgical journey. This is done through information, education and a visit to the anaesthetic preoperative assessment clinic so you know what to expect. We also make sure we have done the appropriate blood tests and checks before you come for surgery and provide any treatment needed based on these. An example of this would be an infusion for someone who has anaemia or a low blood count. This ensures you are in the optimal shape to help you recover from your procedure.

We try to reduce the time you have to go without food or drink. Currently we recommend fasting and no solid food for six hours before your surgery but we encourage you to drink one small cup of water per hour until the time you have come to theatre. The carbohydrate drinks I mentioned previously are generally taken at least two hours before surgery.

Aislinn: Thanks Raji and it's important to note that these fasting guidelines and the enhanced recovery guidelines are for the Coombe Hospital so just make sure to check your fasting guidelines in your own local hospital that you're attending as they could be slightly different.

Raji: During operation we give stat pain relief medication and anti-sickness medication early to help prevent any nausea or vomiting. Once your baby is born and has all the checks we will help you to do skin to skin in theatre. This is lovely for you and baby and we can help you take some pictures if you wish.

To keep your bowels normal after your operation we encourage you to have chewing gum in the recovery area. This should be sugar free if you are diabetic and we will give you a light

diet of that lovely tea and toast after two hours all going well. It can take approximately four hours for your spinal anaesthetic to fully wear off and for you to have full strength in your legs and we aim to get you up walking within six hours.

By six hours after your surgery we check again to make sure you're not feeling nauseous or in pain. We give you a blood thinning injection to reduce the risk of blood clots and if you're mobilising we also remove your urinary catheter. It's important to remember that while we do these targets everyone's recovery and journey is different so it may not follow this path directly but we are on site 24/7 to guide and support you in the early days of your own recovery journey.

Julie: Thanks Raji. You mentioned there that everyone's recovery and journey is different so what we've gone through is probably how it looks like when it's all calm and planned. But what happens in an emergency caesarean section?

Noelle: Exactly, so I suppose firstly we know that these scenarios can be very scary upsetting or even intimidating for mums and their partners with many people arriving into the room very quickly but the important thing to know is that the whole team obstetricians, anaesthetists, midwives and paediatricians are all working together to make sure that mum and baby are safe.

If you already have an epidural that's great because we can what we call top it up quickly for surgery by giving a stronger dose of local anaesthetic. If there's no epidural and we have enough time we can give a spinal anaesthetic. We make sure this is working before surgery starts but if it's very urgent and the baby needs to be delivered right away we may have to use a general anaesthetic to be able to do this as quickly and as safely as possible.

You will have an anaesthetist there with you the whole time whether you have an epidural, a spinal anaesthetic or a general anaesthetic. They are there to make you as safe and as comfortable as possible. If you have an epidural or a spinal anaesthetic your partner can accompany you during the surgery.

Aislinn: And are there any other types of emergency surgeries that women may need around the time of giving birth?

Raji: Unfortunately yes. You may need to come to the operating theatre for surgery to manage complications that can occur during labour or delivery. Your obstetrician may advise that forceps or special instruments are needed to help deliver baby through the birth canal and vagina. It may be necessary to fix a tear to your perineum or the area between your vagina and your anus that may have been injured during delivery. The placenta may not be able to be delivered naturally and may need to be manually removed. Or if you are bleeding very heavily you may need to come to the theatre to better investigate the reason under anaesthesia and to perform some treatments such as insertion of a special balloon into the uterus.

The type of anaesthesia depends on the situation. If you have an epidural that has been working well for you we can top this up, as mentioned. If the surgery will be short and you

are not too unwell we can do a spinal anaesthetic but if you are quite unwell and a bigger procedure is needed we may need to put you to sleep with a general anaesthetic.

Julie: That's all been really interesting. Thanks so much Raji. But what if a pregnant woman needs surgery for something completely unrelated like let's say appendicitis?

Noelle: Yes, so if surgery can safely wait until after baby is born we do prefer to delay it but sometimes it can't wait like with appendicitis because delaying could make both mum and baby sicker. These decisions are usually made by a team that includes surgeons, obstetricians, anaesthetists, midwives and mum and their partner. If it's decided that surgery is the best thing for mum and baby then in these cases we plan really carefully. We know anaesthetic drugs are safe in pregnancy so we use our routine anaesthetic medications.

As mentioned before if mum is over 16-20 weeks pregnant we position mum on the table so blood flow isn't affected by baby in her stomach and we closely monitor so that mum's oxygen and blood pressure are as close to normal as possible so that baby is kept happy in the womb. Then of course we are always conscious that we have two patients to look after and we need to consider that what we do to mum affects the baby also. So when it comes to pain relief or anti-sickness we know that some of the medications we can give can cross the placenta so we make sure to give medicines that are safe for baby.

Aislinn: And I'm sure Raji many women will be wondering if the baby is monitored or checked during this perioperative period for non-obstetric surgery. Can you tell us a little bit about that?

Raji: The team looking after you will let your obstetricians know that you will be going for surgery. The obstetric team will make a plan to follow you up or support the surgical team in your care during this time. Depending on your gestation and the type of surgery your midwife may do a check on baby before or after surgery to ensure that baby is happy and healthy. But everyone's care is individual so your plan will be specific to your case. We are lucky to have a great relationship and support between St. James' and the Coombe to arrange the shared care. Thank you.

Aislinn: So that was a really informative episode with lots of information there and I'd just like to say a huge thanks to both our Consultant Anaesthetist doctor Noelle Healy and our Assistant Director of Nursing and Midwifery Raji Dominic, who've come over from the Coombe to give us such useful information in a really easy to understand format. I'm sure we'll definitely have a lot of feedback from our listeners on this one. Stay tuned to listen to our final episode in Season 3 coming up the Upper GI Team.

(Outro) Aislinn: You have been listening to Operation Preparation, the Pre Anaesthetic Assessment Clinic podcast from St. James's Hospital, Dublin. Don't forget to subscribe and check out our website, links and abbreviation in our show notes to learn more about the topics we've covered today. If you have a question that you would like us to cover here, email us at operationpreparation@stjames.ie. Thank you for listening. Until next time.