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Epidural Anesthesia and Challenges in Pain Control

CHALLENGES OF EPIDURAL ANESTHETIC AND ITS ROLE IN LABOR

You are listening to ReachMD XM160, The Channel for Medical Professionals. Welcome to Advances in Women's Health, sponsored in part by Eli Lilly. Your host is Dr. Lisa Mazzullo, Assistant Professor of Obstetrics and Gynecology at Northwestern University Medical School, The Feinberg School of Medicine.

You are listening to ReachMD, The Channel for Medical Professionals. Welcome to Advances in Women's Health. I am Dr. Lisa Mazzullo, your host and with me today is Dr. Cynthia Wong, an Associate Professor of Anesthesia at Northwestern University Medical School and the Medical Director of Obstetrical Anesthesia at Prentice Women's Hospital.

DR. LISA MAZZULLO:

Welcome Dr. Wong.

DR. CYNTHIA WONG:

Thank you.

DR. LISA MAZZULLO:

So, to begin with, I think epidural anesthesia seems like a gift to patients in labor. Do you want to may be talk a little bit about what the difference is or the different types of epidural that are available?

DR. CYNTHIA WONG:

Sure. Well, labor hurts as we all know and it hurts a lot. There are different types of epidurals that we can use to remedy that. Traditionally, back in the old days and we are talking about 30 years ago, as you said in the 1970s, we did epidurals with local anesthetics. The local anesthetic we usually used was bupivacaine and we infused it either intermittently or continuously and women got nice and numb from their umbilicus and down, but it was also associated with a significant degree of motor blockade, which was uncomfortable for women. They felt like _____, they couldn't really move around in bed and it may have contributed to an increased

incidence of instrumental vaginal delivery. So, about 20 or 25 years ago, somebody very bright discovered new opioid receptors in the spinal cord and discovered that if we added opioids to our local anesthetic mix, we could cut down on the amount of local anesthetic that we administered and accomplish 2 things. Number 1, we would get better pain relief because we were kind of addressing 2 different mechanisms of the pain – the pain that's mediated and treated by local anesthetics, which is a somatic-type pain and the pain that is mediated through new opioid receptors. So, the advantages were we could cut down the amount of local anesthetic, which cut down on the motor block, which cut down on the uncomfortable feeling of not being able to move around in bed.

DR. LISA MAZZULLO:

Which would improve pushing in labor, which was lovely.

DR. CYNTHIA WONG:

Correct and allowed some women to walk if they wanted to and then we used lower doses of both drugs, so we used lower doses of local anesthetics and lower doses of opioids, which means there is lower side effects from each one of those drugs, both for the mom and the fetus.

DR. LISA MAZZULLO:

And you were talking briefly about the possibility of walking and you know, there is quite a lot of lay press taking about walking epidurals versus traditional epidurals. Can you may be comment a little bit about what the advantage or disadvantage of those would be?

DR. CYNTHIA WONG:

Sure. Really, the walking epidurals what I just talked about is the newer technique where we use low concentrations of local anesthetic and combine it with opioid because if we just use low concentrations of local anesthetic by itself, many women would have breakthrough pain and this is the anesthetic that I think all modern day obstetric anesthesiologist should be aiming for, whether or not a women gets up and walks. Some women when they get pain relief during labor would prefer to take a nap, they really don't want to walk. Research has shown that walking doesn't make any difference in terms of the outcome of labor. In other words, it doesn't decrease your risk of having a C-section or a forceps delivery, but many women feel more comfortable getting up and walking around, having the ability to go to bathroom.

DR. LISA MAZZULLO:

Is there any disadvantage to having a walking epidural?

DR. CYNTHIA WONG:

There really isn't except that we use lower doses of drugs as I said and they won't be enough for some women. So, back in the old days, we gave a much higher dose of drug and it made everybody comfortable. Now, we give lower doses and they make most women comfortable, but there will still be a few women, who will need the higher doses and will need a little bit more attention. It's not a big deal. We just go back and individualize the anesthetic much more than we used to.

DR. LISA MAZZULLO:

When we are thinking about early labor, the anesthetics for that time have changed, I think, a lot from research you have done, which we will talk a little about in a minute, but opioids were often used in early labor and I was wondering if you could comment a little bit about the advantages or disadvantages of using intrathecal analgesia over a systemic analgesia in early labor.

DR. CYNTHIA WONG:

So, we used to give a lot of systemic analgesia, opioid analgesia early in labor and the belief that if we gave an epidural too early, it would slow things down and cause C-section and you know, systemic opioids do not work very well for labor pain. They make women sleepy, they make women groggy, they throw up a lot. We have the illusion may be that it provides a little bit of analgesia, but when you go in there and actually study it, there are some studies that show that you really don't get any significant analgesia out of systemic opioids at all.

DR. LISA MAZZULLO:

They would feel sleepier during it happening, but not feel real relief.

DR. CYNTHIA WONG:

Right and the other problem is that it actually might make things worse because what happens is women hyperventilate during contractions, that actually decreases uterine blood flow, which is not a bad thing for someone who has normal uteroplacental perfusion, but could be an issue in someone who has decreased uteroplacental perfusion and then in between contractions because they've hyperventilated during the contraction, they hypoventilate, which is made worse when you have narcotics on board and then hypoventilation could conceivably lead to maternal hypoxemia, which would lead to fetal hypoxemia and so you get in kind of the worst of both worlds here.

DR. LISA MAZZULLO:

Hmm.

DR. CYNTHIA WONG:

You are not getting pain relief and you are hypoventilating.

DR. LISA MAZZULLO:

One of the challenges, I think, you must find when you do the research you are doing is how do patients really perceive pain because I think it's really a subjective rather than objective thing and I know there are some ways you have come up with measuring that. Can you comment a little bit about how you have dealt with that problem?

DR. CYNTHIA WONG:

Well, you are absolutely right. Pain is extremely multidimensional. Our little VRS score (Verbal Rating Score) 0 to 10 is mostly inadequate, although easy to use and so we use it quite frequently, but you know we tell patients 10 is the worst pain you could ever imagine and most people can't imagine the worst pain imaginable. So, we have all had the experience where women say they are 8 on a 10 scale and you think yourself oh! dear, you don't really know what it is going to get, what it is going to be like.

DR. LISA MAZZULLO:

Exactly.

DR. CYNTHIA WONG:

And interestingly enough, women usually ask further epidurals when they have the same pain score. It's usually about 7 or 8 out of 10, but when they get to 8 or 10 cm, they are still 7 or 8 out of 10. We all know that it hurts more as labor progresses, so you can see right there that this pain score is inadequate in estimating pain. There have been a few studies that have been done too. There was the interesting study that came out of Israel a couple of years ago and in this particular hospital in Israel, the caregivers are Jewish physicians and nurses and there was a Jewish patient population and a Bedouin patient population and what they have the care providers do is assess the pain that the women were feeling in labor and then they asked the women how much pain they were feeling in labor and interestingly enough the caregivers thought that the Jewish women hurt a lot more than the Bedouin women hurt during labor. Their pain scores were much higher, but if you ask the women, they perceive that they were feeling the same amount of pain.

DR. LISA MAZZULLO:

Interesting.

DR. CYNTHIA WONG:

So, we really also have an issue in how we perceive women are in pain and how we assess that.

DR. LISA MAZZULLO:

So, what would you suggest we do know?

DR. CYNTHIA WONG:

Well, some of my colleagues at other institutions are trying to develop multidimensional pain scores, not ready to use yet, not validated clinically. It's hard to make them so they are useful clinically because really if you evaluate all the dimensions of pain, it would take us 15 minutes to evaluate everybody for pain and we all know we don't have that kind of time. So, I think now you just have to sit down for a few minutes with the patient and figure out what's going on. Is it pain, is it anxiety, what's contributing to their feeling of not being

comfortable.

DR. LISA MAZZULLO:

If you are just tuning in, you are listening to Advances in Women's Health on ReachMD, The Channel for Medical Professionals. I am Dr. Lisa Mazzullo and I am speaking today with Dr. Cynthia Wong and we are discussing the challenges of epidural anesthesia and its effect on labor and patient care.

Dr. Wong, the next thing I want to address is some of the information that came out of your study regarding early epidural usage in labor and its lack of impact on cesarean section and labor progress and first tell us who were the patients you included in this study?

DR. CYNTHIA WONG:

So, the original study that was published a couple of years ago included patients, who were having baby for the first time, the nulliparous patients, in early labor. They had asked for pain relief before their cervix was dilated 4 cm.

DR. LISA MAZZULLO:

Did you find there was an impact on using epidural anesthesia earlier as far as the course of labor or the result of the labor delivery mode?

DR. CYNTHIA WONG:

So, there was no difference in the cesarean delivery rate between giving women what was called a combined spinal epidural early in labor compared to giving them systemic opioid. Labor was actually faster in the women, who got the epidural early in labor and it was faster by a lot, by a median of 80 minutes. Obviously, the pain relief is much better. The incidence of nausea and vomiting was much lower in the group that got the neuraxial analgesia early in labor and the one-minute Apgar scores for the babies were higher in the women, who got the neuraxial analgesia compared to the systemic opioid analgesia, which I found interesting since the opioid was early in labor. For most women, that was a good 4 or 5 hours before delivery, but we still seemed to have an opioid effect on the neonate at delivery.

DR. LISA MAZZULLO:

Was there anything else that had an impact? Did the use of Pitocin make any difference and which group had better labor progress?

DR. CYNTHIA WONG:

Well, at our institution, as you know, most women get Pitocin during labor. That's just the way my obstetric colleagues practice, but interestingly enough, the women who were randomized to the systemic opioid group got more oxytocin. So, their labors were slower despite the fact that they had more oxytocin.

DR. LISA MAZZULLO:

In nulligravid patients, obviously labor is typically a fairly long period of time to begin with. Do you have any concerns about the catheter or the medication usage over longer periods of time in the patient for either the mother or the baby?

DR. CYNTHIA WONG:

You know, not really. We use fairly low doses and so the duration is not a major factor. It's true that the longer you leave an epidural catheter in place, the higher the infection risk, but we are talking about days compared to hours.

DR. LISA MAZZULLO:

Hmm.

DR. CYNTHIA WONG:

So, leaving it in 6 compared to 8 hours is not a big deal.

DR. LISA MAZZULLO:

And are there any clinical scenarios where we would not be able to use an epidural anesthetic in this scenario?

DR. CYNTHIA WONG:

Well, epidural analgesia is absolutely contraindicated obviously by patient refusal. We also do not put it in patients who have a coagulopathy or taking anticoagulants. If there would be bleeding in the epidural space, it's a closed space surrounded by bone, the hematoma can't go anywhere and so we would get compression of nerves or spinal cord tissue and that could be catastrophic. So, we don't put it in people who have a coagulopathy.

DR. LISA MAZZULLO:

Thanks to Dr. Cynthia Wong, who has been our guest and we have been discussing the challenges of epidural anesthetic and its role in labor.

I am Dr. Lisa Mazzullo. You have been listening to Advances in Women's Health on ReachMD, The Channel for Medical Professionals. Please visit our website at reachmd.com, which features our entire library through on-demand pod casts or call us toll-free with your comments and suggestions at (888-MD XM157). Thank you for listening.

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DOCTOR:

Well, hello Nancy.

NANCY:

Hi! doctor.

DOCTOR:

How is the osteoporosis medicine I prescribed working for you.

NANCY:

Well, it's fine doctor, but you know I saw this commercial for something called Evista, raloxifene hydrochloride.

DOCTOR:

Yes, Evista, it's prescription only and it's the one medicine that treats osteoporosis and reduces the risk of invasive breast cancer in postmenopausal women with osteoporosis. It's important to note though that Evista does not treat breast cancer, prevent its return, or reduce the risk of all forms of breast cancer.

NANCY:

Am I at risk for invasive breast cancer, I don't have a family history?

DOCTOR:

Well, family history is important, but there are other risk factors that we need to take into consideration including your advancing age and personal history and based on my risk assessment, you may be at risk.

NANCY:

So, you think Evista is right for me?

DOCTOR:

Well, individual results may vary, but I think for you, the benefits of Evista would outweigh the potential risks, let's switch you today.

NANCY:

Oh, thank you doctor. I am glad I asked about it.

DOCTOR:

No problem.

DOCTOR:

Evista increases the risk of blood clots, should not be used by women who have or who have had blood clots in the legs, lungs, or eyes. Evista may increase the risk of dying from stroke in women at high risk for heart disease or stroke. Talk to your doctor about all your medical conditions. Seek care immediately if you have leg pain or warmth; swelling of the legs, hands, or feet; chest pain; shortness of breath; or a sudden vision change. Do not use Evista if you are pregnant, nursing, or may become pregnant as it may cause fetal harm. Women with liver or kidney disease should use Evista with caution. Evista should not be taken with estrogens. Side effects may include hot flashes, leg cramps, and swelling. For more information about Evista, contact your Lilly sales representative. Visit www.evista.com. See our add in good housekeeping or call 1888-44 Evista.