

**SPEAKER 1:** And so surgery's limited. We find that most women only will have relief in their symptoms-- the study shows-- between six months and one year of having surgery. And we'll talk about how we're starting to think about what we should do if we're going to do surgery to try to increase that duration of symptom relief. But it's based on how people do surgery because dissecting off of the bowel-- the bladder is really complicated. Or if you have to dissect off of a ureter from the kidney to the-- [INAUDIBLE] the kidney down to the bladder, those are major structures. And not everybody is going to feel comfortable dissecting off with those major structures.

So let's go back and talk about how do we treat things. So most of us will start with anti-inflammatory medications like Motrin, Advil, Aleve, Ibuprofen. Most patients, in fact, are usually already taking that by the time that they met us. I think the most common next step is to do birth control pills, but it doesn't have to be. It could be any other hormonal methods, so the pill, the patch, the rain ring, the shot every three months, or the IUD. The hormonal IUD has very good data for endometriosis. Any of those can be used. Birth control pills are just usually the easiest one that people think about.

Sometimes we use medications that don't necessarily give hormone back to the patient but just modulate their hormones. So these are things like GnRH agonists, such as GnRH agonists. And these basically put women into a false menopause. Shut off all of their reproductive hormones. And most women will respond to something like that. They have side effects. People will have hot flashes, vaginal dryness, irritability, all the things that you have with menopause. And in very young patients and you do it all of a sudden, they don't always like that. So a lot of times you have to add back a little bit of hormone with a progesterone to counteract those side effects.

The limitation for those medications are also that they can thin the bone, so there are time restrictions for how long we can keep women on GnRH agonists. In general, we usually do a six month course if we do not add back some type of progesterone, and if we add back some type of progesterone we can go for a year. It's what the FDA says. Some people do go a little bit further, but then you really are going off-label and need to be checking their bone studies.

There are other medications like Danocrine. GnRH agonists and Danocrine are FDA approved drugs. Danocrine is a hyperandrogenic state, so you can have some side effects with hair growth on the face, the chin, long-term deepening voice if you're using higher doses. But for most of these medications they work. It's whether the patient tolerates the side effects.

And then we have some more newer medications that are more experimental and they're currently in clinical trials, like aromatase inhibitors, GnRH antagonists. And then, a lot of us will use off label treatments for pain that don't address in particular the endometriosis but are just trying to help pain like nerve modulators, like gabapentin, or low dose antidepressants. Whatever we can do to treat the patient's pain without having to put them on narcotic medications.

Because unfortunately in our country, a lot of patients with endometriosis do end up being on narcotics at very high doses and can develop some type of tolerance. So if we can treat it without using narcotics we really do try. Sometimes patients will need to use narcotics, but in my practice, for instance, I only prescribe narcotics if I've done surgery to cover the pain associated with the surgery. I do not prescribe narcotics outside of surgery.

Going to surgical treatment, I started to mention this. There's a big debate amongst the doctors about ablation vs. excision. Meaning, do we burn the endometriosis that we can see or we cut it out? I am on the camp of excision more because I talked about how you can just see the tip of the iceberg sometimes, and when you cut out the lesion you can see how deep it is. And I try to also get a good border around the lesion so that I can get any microscopic disease that's there.

But that's debatable, mostly because we only have long term data for up to about a year or two, so we don't know if cutting it out is going to allow a woman to have pain relief for more than just the six months to one year that's reported in the literature. The other big thing is the debate about hysterectomy. So when we first started treating endometriosis, it's very classically thought that a hysterectomy was a cure for endometriosis. We know for sure that it's not the cure. So if you just do a hysterectomy on a patient with endometriosis, they will very likely have a recurrence in their pelvic pain.

The reason why is that I showed you that the endometriosis all along the lining of the pelvis is in other places. So if you just remove the uterus it's outside of the uterus as well. And also, if there's microscopic disease that you don't see that's being stimulated by the ovaries that are still present, it can stimulate endometriosis. So in my practice, I don't do a hysterectomy or take out the uterus in women who want to have children or that might want to have children. Because I know 100% that's not going to fix their pain or they're going to have a high recurrence risk of their pains. I don't feel like I should take away their fertility.

I will treat the endometriosis and maybe do a surgery to cut out all the endometriosis that's there until they're done with childbearing and closer to menopause. And then we have the discussion about removing both the uterus, their cervix, and the ovaries at the same time of doing the surgery for endometriosis as well. So one thing I want to put out there is that hysterectomy is not a cure for endometriosis.

The other thing is that almost all of these surgeries can be done laparoscopically. So minimally invasive with tiny, little 5 millimeter incisions or robotically through 8 millimeter incisions. And so things are shifting. We're getting away from doing things with big, huge incisions on the abdomen, which is associated with a lot more risk. But you do need to know how to do this. You have to have some skill level and be able to do the more advanced endometriosis minimally invasively.

But no matter which approach we do and whatever surgery we decide to do-- and I make that a mutual decision with the patient-- the goal is really to reduce the disease burden. So take out as much as we can possibly see, restore anatomy if we can, especially in the cases of fertility, and improve fertility, which may mean for-- I know a patient's going to do IVF. Taking out that blocked tube that's going to make their success rates for IVF less effective.

And then rarely, the goal is to detect rare cancers. So there are some cancers that are associated with endometriosis. It's very rare. So at the very least, though, if you're going to go in-- even if you're going to burn or ablate the endometriosis, we recommend that you take some biopsies and send it off to pathology.

This study is just a graph. It's meant to depict that surgery is different depending on who does the surgery. The best data is for hysterectomy, or laparoscopic hysterectomy. We know that the outcomes are better and the complications are lower if you go to a high volume surgeon compared to a low volume surgeon. The same thing, I believe, is true for endometriosis because the more endometriosis that you do, the more likely you're able to identify the more subtle lesions of the endometriosis. The more likely you are to be comfortable going after all of the endometriosis that's on the dangerous spots.

And so patients are becoming more aware of that and starting to go towards the centers of excellence for endometriosis or places where people do a lot of endometriosis in order to avoid what commonly happens for endometriosis patients having a surgery every one to two years for much of their reproductive life. So I will see patients that have had 12 surgeries, 15 surgeries, which is-- that's a lot of risk for patients, which I don't find it necessary for my patients in my practice.

Now we talked about medications, we talked about surgery, but endometriosis is one of the few diseases that really, really, really-- not one of the few, but clearly needs a multidisciplinary approach. In our endometriosis center we offer contemporary and alternative medicine as well. So there have been studies that show benefit from yoga and acupuncture. We talk about things like-- we call it the endo diets that try to decrease inflammation.

We talk about things-- physical therapy is extremely important because most women that have chronic pelvic pain for whatever reason, whether it's endometriosis or other things, a lot of those women will develop pelvic floor dysfunction, just from their pelvis not being able to relax anymore from the [INAUDIBLE] of multiple pain. If you just treat the endometriosis-- you can cut out all the endometriosis you could possibly see and they will still come back with pelvic pain because they have pelvic floor dysfunction that hasn't been treated. So our pelvic floor physical therapists are really great in addressing that and also helping them to learn some tricks to do at home to stretch out the pelvic floor.

Massage is great, biofeedback. Our pain psychologists help people to learn mechanisms to deal with very acute pain and keep people out of the emergency department, which is really common for many patients with endometriosis. There are some nerve stimulation mechanisms, as well as psychological counseling. And so I want to be clear that I don't believe that endometriosis is a disease in the brain. I don't believe the mass majority of my patients are just anxious or this is all in their head. That's not true.

But a significant amount of my patients will have some psychological disturbances from being in chronic pelvic pain forever. From missing work, the affects of their families, no longer being able to have sex with their partners. It's really distressing. So being able to talk about this stress that's associated with chronic pelvic pain is really important as well.

We talked about some alternative medicine. The great thing that's coming out right now are there are actual studies that are looking at some other things, like dietary changes, that can improve outcomes for endometriosis patients. And this is just one. Cumin has been-- turmeric has been studied. But it's nice because the centers are starting to look at its effect on pro-inflammatory markers and how the mechanism that might cause you to have improvement of pain if you institute some of these methods.

But the problem overall, if you haven't noticed, is that our treatment mechanism, our diagnostic mechanisms, are not that great. Depending on where you go and who you see you might get different treatments for endometriosis. Our diagnostic options are not that great. We really would like to have something other than surgery to diagnose endometriosis to get a more gold standard diagnosis of endometriosis.

And often, we're really just trying to treat symptoms rather than trying to cure the disease. We don't have a cure for it. And so when you go to different providers, we're all going based on our own clinical experience rather than us having a great multidisciplinary model for how to treat endometriosis. We talked about that the role of surgery is unclear, mostly because we don't have great long term data. And it's not clear when we should intervene.

So most of the time, I think for most clinicians that do a lot of endometriosis, we tend to only intervene, if we see endometriosis, if a patient is symptomatic. So they have pelvic pain or they have infertility. We might do a surgery and see endometriosis because it's very common, but the patient has absolutely no symptoms. It doesn't really make a lot of sense for us to take the risk toward a possible potential injury to their major structures in a patient who doesn't have pelvic pain.

But it's not always clear when we should intervene and when we shouldn't intervene. And I mentioned that the treatment really requires a holistic and multidisciplinary approach.