Episode 230: Cervicogenic Headache: Causes, Diagnosis & Treatment

Lindsay Weitzel, PhD:
Hello everyone, and welcome to HeadWise, the videocast and podcast of the National Headache Foundation. I'm Dr. Lindsay Weitzel. I'm the founder of Migraine Nation and lindsayweitzel.com. I have a history of chronic and daily migraines that began at the age of four. I am super excited to tell you that our guest today is Dr. Betsy Grunch. Hello, Dr. Grunch, how are you today?

Betsy Grunch, MD:
I'm good. I hope you are.

Lindsay Weitzel, PhD:
I am too. Many of you may know Dr. Grunch from social media as Lady Spine Doc. Dr. Grunch is a neurosurgeon specializing in minimally invasive spine surgery. She works out of the Long Street Clinic for neurosurgery in Georgia. And today we are going to ask her some questions about cervicogenic headache and the role of a neurosurgeon in this diagnosis.

So first of all, I am really curious to clear up what cervicogenic headache is, because I know we have many people watching today and listening today who probably have neck pain with their various headache diagnoses. If they have NDPH [New Daily Persistent Headaches], if they have migraine, whatever they have, many of us get neck pain along with it. So, let's talk about how the diagnosis of cervicogenic headache is different from other types of head pain.

Betsy Grunch, MD:
A cervicogenic headache is kind of like a secondary headache, meaning that it's caused by something else. So, with a cervicogenic headache, it originates from a problem in the neck, like the name would suggest. So, it's not like a primary migraine disorder, but it's a headache caused from a neck issue. And it's often referred[1] from either the musculoskeletal structures in the spine, which I deal with all the time, nerve structures in the spine, and how those can radiate and cause pain in the head and face. So, it's a little different than your migraine type headache.

Lindsay Weitzel, PhD:
Do you have to have sustained some type of neck injury to have a cervicogenic headache, or can you just sort of be born with it?

Betsy Grunch, MD:
The answer to your question is no. You don't have to have trauma necessarily to have a cervicogenic headache, but it can be related to any type of neck issues not related to trauma. So of course, trauma can definitely cause strain, musculoskeletal strain, ligament strain, that can cause headache. But it often can arise from arthritis that we all kind of get as we get older or from some type of degenerative issue in our neck. And even younger people with connective tissue disorders that have maybe a little bit of

hypermobility[2] or problems like that, can get irritation of those structures that can cause headaches from that.

Lindsay Weitzel, PhD:
You brought up connective tissue disorders and some of the soft tissue structures. Is it always something that can be seen on a scan?

Betsy Grunch, MD:
Absolutely not. And I think that's where some issues come in with misdiagnosis and it's not always something that we see with imaging. So of course, people with suspected neck issues will get x-rays. We can get MRIs or CTs, but sometimes those are normal. And patients still experience cervicogenic headaches because of muscle issue or muscle strain or tenseness or abnormal posture. Or like we just hit on the connective tissue disorders like hypermobility can cause strain to those normal looking joints on imaging.

Lindsay Weitzel, PhD:
So how is it diagnosed? And what type of physician usually makes this diagnosis?

Betsy Grunch, MD:
It can be diagnosed by any physician, primary care, neurology, neurosurgeons, spine specialists. But there's not like a definitive test for it. So, the diagnosis is more based on history. If you have a patient who has a one-sided headache that kind of starts in the neck and radiates one side, that's pretty classic.

On physical examination, you can have patients with like restricted neck motion and trigger points that can be indicative of that. Even diagnostic nerve blocks can help with making the diagnosis. For example, like for facet[3] blocks where you inject the joints in the neck, and if they get relief of their neck pain plus their headache, that's pretty helpful in making that diagnosis. Or even occipital neuralgia, which is kind of a nerve issue in the spine that can cause pretty classic headache type symptoms, getting that blocked can also help. And if the pain improves, help make that diagnosis.

Lindsay Weitzel, PhD:
So I assume once you get a diagnosis, do physicians often refer to a neurosurgeon like yourself?

Betsy Grunch, MD:
It depends on really what the mechanism is. I mean, these patients don't often get referred to a surgeon per se, because they may not have pathology that is needing of a surgeon at that moment. Often with neck pain, we have this classic treatment pathway in which we initiate patients and starting with conservative treatment. Primary care may refer them to physical therapy to try manual therapy, neck stabilization, postural retraining, trigger point release. Massage therapists can sometimes assist in this. Chiropractic management can be of assistance in some cases too. And then these patients sometimes may be referred to sports medicine, orthopedics, or spine specialists such as pain management providers with other alternative treatments. So, they may not all often go to a surgeon as that first step in

management as the next specialist. So, it's important to recognize these as a well-known headache phenomenon and how we can best treat these patients.

Lindsay Weitzel, PhD:
What are some procedures if perhaps a person doesn't respond to chiropractic care, physical therapy, etc.? Are there procedures that can be done?

Betsy Grunch, MD:
Yes. So, we often start with less interventional treatments and then kind of escalate unless there's red flag symptoms. If there is someone with terrible neck problem that needs surgery, then that might be the next step. But in the classic stepwise progression, we try those very basic, conservative treatment measures you mentioned, medications, physical therapy, chiropractic management, even massage therapy, dry needling, all those things.

And then the next step, in an interventional scale, would be more injection type treatments such as occipital nerve blocks, which are, injections to kind of block C2 [second vertebra], which is upper cervical spine, cervical medial branch block. So that's like facet blocks, were we'll inject the joints in the back of the neck.

Radiofrequency ablation, if those are successful. If the injections of facets are successful, often a series of two. They're just medications that go into the joints that typically will wear off. So, an ablation can be more long-term relief of the joint pain and thus the cervicogenic headaches. And botox injections, so if it's felt to be more muscular, sometimes botox can be of benefit to patients.

And then, of course, we could get into talking about the different surgeries if those interventional treatments fail. And surgery is all over the place, really depending on the patient's pathology and what's effective.

Lindsay Weitzel, PhD:
How effective are the surgeries? And are there a lot of different surgeries or are there a few mainstays that people get done if they have this type of head pain?

Betsy Grunch, MD:
I think in terms of the types of surgeries, it's so dependent on what the pathology is. So, to say, “x” surgery can treat cervicogenic migraines is false, because it really depends on what the neck issue is that's causing the headache. So, if it's a disc herniation, there's discectomy, there's disc replacement, there's fusion surgery. If it's facet pain or pain and from arthritis in the joints, then we'll treat that with fusion typically because that immobilizes the joints. There's even posterior options, anterior options. And then, for patients with occipital neuralgia, sometimes even occipital nerve surgery can help with that too.

So it really just kind of varies on what the problem is. That's why it's important to make sure you go see a surgeon with experience in all those different types of procedures, **because one treatment doesn't necessarily fit all.**

Lindsay Weitzel, PhD:
Right. I did notice that you were using the word migraine when describing these types of headaches. Do you feel that the symptoms often mimic migraine or maybe even cause someone to have a migraine pathology.

Betsy Grunch, MD:
I probably interchange those words because I think obviously as patients, we often think a cervicogenic, I call them cervicogenic migraines because we think of headaches as migraines sometimes when they're severe. But, yeah, I think, they are different from your traditional migraine headache, but the symptoms are often very similar. And so, it's not a true migraine, but I guess we should call them probably a cervicogenic headache.

Lindsay Weitzel, PhD:
I caught on to that because I do think, and correct me if you disagree, but I do think some people are often either misdiagnosed for a long time by the time they find someone like you notices that it is cervicogenic issue or they themselves have been calling it migraine for so long that no one asks if they have neck pain. So, I found it interesting that you said that. So I think it's an issue, and everyone uses that word. Do you have a feel for how successful the surgeries are for helping people with their head pain?

Betsy Grunch, MD:
Typically, if it's a surgery that's treating the pathology that's causing the headaches, then surgery is usually very successful. Spine surgery results can really vary based on appropriate diagnosis. I mean, just like any other field, there can be misdiagnosis and incorrect treatment. But with a purely cervicogenic headache that is caused from a root source in the neck, and you fix that source, the successes is usually over 90%.

Lindsay Weitzel, PhD:
Okay. Wow. Do you feel like there's more males or females that present with cervicogenic headache or anything like that?

Betsy Grunch, MD:
I don't know the statistics off the top of my head, but I would venture to say that it's probably more common in females, that we just often don't have a strong of a neck as men. And that leads us to having more musculoskeletal issues at baseline. That not only is for neck problems, but just spine problems in general. And yeah, I think the importance of strength training in women and just our overall strength in general is so important for prevention of these. And we touched a little bit on soft tissue diseases, hypermobility, and that those types of processes are tremendously more common in women.

Lindsay Weitzel, PhD:
And then, is there anything else you'd like to add before you go? Did we miss anything or not touch on any issues that you think we should bring up?

Betsy Grunch, MD:
I just think it's important to know how common these are. And you hit the nail on the head by saying so many patients really think that they're suffering from migraines when potentially it could be something like a cervicogenic headache. And those are treated completely differently. So, I think it's important that if you have headache associated with neck pain, to know that it may be a type of headache like this, and to really talk to your doctor about getting appropriate workup. That may be an x-ray of your neck, MRI of your neck, and something to look for a potential source. Because the treatments for this headache compared to just your typical migraine are markedly different. **And if you're on a treatment for what you thought was migraine and it's not working, it's important to also bring that up to look more in depth at your diagnosis and potentially see if it could be something else.**

Lindsay Weitzel, PhD:
Thank you so much for joining us today. And thank you, everyone for being here for this episode of HeadWise. Please join us again for our next episode. Bye bye.

Betsy Grunch, MD:
Bye.

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[1] Referred Pain: Referred pain is when you feel pain in one area of your body, but the actual source of the pain is located in another, often seemingly unrelated, part of the body. It's a common phenomenon where the brain misinterprets pain signals due to interconnected nerve pathways.

[2] Hypermobility: Hypermobility, also known as "double-jointedness," refers to joints that can move beyond the normal range of motion.

[3] Facet: Facet joints are small, paired joints located on the back of the spine, connecting each vertebra to the ones above and below. They provide stability and allow for spinal movement.