

Q&A on spinal cord injury

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[00:00:05] **Dr. Benjamin Greenberg:** I'm very pleased to introduce Dr. Kim, who's our Chair of Physical Medicine and Rehabilitation Medicine here at UT Southwestern. Dr. Kim came to us via Columbia, before that was at Chop. Did her original training in Seoul, South Korea and is one of the eminent international experts in spasticity management, primarily as it relates to cerebral palsy. And she made me promise to say I put the disclaimer that her focus has not historically been immune mediated spinal cord disorders.

[00:00:40] But number one, after this conference, we hope to convince her to shift gears and focus on immune mediated spinal cord disorders. And number two, there's a ton of overlap between the questions that come up from all of our patients about spasticity management, whether we use pharmacologic or interventional means. And Dr. Kim is a world expert on that. So, I thought we take 10 or 15 minutes for some comments and questions for Dr. Kim and then we'll move back to the program as it. So, Dr. Kim, thank you.

[00:01:09] **Dr. Heakyung Kim:** Thank you. Hi, everybody. I am so sorry that I was late and I think Dr. Greenberg should give me a little bit of a credit that I am also very good with the spinal cord dysfunction. I didn't tell him that, but I am. So, I was actually invited almost like a last minute, because I had a patient who has transverse myelitis. When I was a young faculty and I was doubting that the patient doesn't look like transverse myelitis patient for me. Although neurologist insisted that the patient has transverse myelitis. So, I had to repeat the MRI I did the EMG then actually, it was anterior horn cell disease.

[00:02:01] It was different low motor neurone disease. And then my patient's mother is here. So, they invited me to get to know. But as Dr. Greenberg said, my life is all about the cerebral palsy and childhood onset disorder which is spina bifida, spinal cord injury. So, I deal with a lot of muscle stiffness. So, if you guys have any questions I can answer to you or I can just talk about it. So, anybody has a question on spinal cord injury or muscle stiffness or using the Baclofen, Intrathecal Baclofen pump kind of stuff. I know. Thanks for bring arm, please. I like to have a couple of questions since I drove here.

[00:02:51] **Audience member 1:** So, our granddaughter she's eight and at our last appointment they told us that she's beginning to have some scoliosis and is that related to spinal?

[00:03:04] **Dr. Heakyung Kim:** I missed the question, she started to have what?

[00:03:06] **Audience member 1:** Scoliosis.

[00:03:07] **Dr. Heakyung Kim:** Scoliosis. Yes.

[00:03:08] **Audience member 1:** And she has transverse myelitis, but is that related to spasticity? Is that why she's developing that?

[00:03:16] **Dr. Heakyung Kim:** So, does she have a trouble with the whole body or?

[00:03:20] **Audience member 1:** Yeah, about thoracic level.

[00:03:22] **Dr. Heakyung Kim:** Thoracic level? Yes or no, because the patient who has the spasticity, they also have a weakness, right?

[00:03:31] **Audience member 1:** Yes.

[00:03:31] **Dr. Heakyung Kim:** So, combination of muscle stiffness and weakness is going to cause muscle imbalance. So, that can be possibly a cause for the scoliosis, which means we call that neuromuscular scoliosis rather than idiopathic scoliosis. So, some cases are treated with Botulinum toxin to delay scoliotic curve. In some cases, I was able to successfully delay for a while. But neuromuscular scoliosis is a little tricky, because we still do not know how we can prevent. But years of experience is that at least to do it in upright position.

[00:04:13] I like to apply the brace and then that really delays, because it's mostly imbalance. So, still we can hold it. There's a fixed curb and flexible curb, still some curb is not fixed yet. But if you sit with the same position for a long time, it can be fixed easily. So, even the orthopedic may not agreeable with me that they said neuromuscular scoliosis is not going to be prevented with the spinal jacket body jacket. Usually we use plastic. But I witnessed that quite a number of patient didn't develop severe scoliosis for a long time.

[00:04:59] But also even though it's not related to their growth, but we are dealing with the pediatric population. The children, the difference is they are getting taller and longer. So, if they have spasticity the bone has no spasticity, but muscle has spasticity, right? So, whenever they grow fast, they have a huge imbalance between bone and muscle growth, which could cause the imbalance in the muscle length. So, can be the cause for the scoliosis too. Not the evidence based yet. Any other questions. Yes, please.

[00:05:50] **Audience Member 2:** I was attacked by a dog last fall and I seem to have that spasticity seemed to get worse. So, I'm on back with it now, but I can't really tell that it's doing any good.

[00:06:11] **Dr. Heakyung Kim:** So, you supposedly your lesion is in spinal cord area, right?

[00:06:18] **Audience Member 2:** Yeah, T9 and T10.

[00:06:19] **Dr. Heakyung Kim:** So, just with my experience, because I usually do not recommend the botulinum toxin injection to spinal cord injury patient. It's less effective than Baclofen. Baclofen is much more effective for the patient with a spinal cord injury, because when you think about the receptor of the Gaba, which is in the more spinal cord relatively. So, when I use the oral Baclofen, it's much more effective than botulinum toxin injections.

[00:06:55] **Audience Member 2:** I do Gabapentin and Baclofen.

[00:06:58] **Dr. Heakyung Kim:** So, but you don't feel that Baclofen is not working?

[00:07:02] **Audience Member 2:** No.

[00:07:04] **Dr. Heakyung Kim:** Then why you said it's not working? Your stiffness is the same?

[00:07:07] **Audience Member 2:** Yeah.

[00:07:09] **Dr. Heakyung Kim:** Do you have a pain anywhere? Anything is bothering you?

[00:07:13] **Audience Member 2:** Pain on my right side, yeah.

[00:07:15] **Dr. Heakyung Kim:** If you have a pain--

[00:07:18] **Audience Member 2:** I think it's pain from the spasticity.

[00:07:20] **Dr. Heakyung Kim:** So, there are two different things, right? So, it can be either way. So, if you have a pain, pain can aggravate spasticity and then spasticity is going to cause the pain. So, you may be in vicious cycle. So, in that case, you can try, well, how much dose are you taking oral Baclofen?

[00:07:42] **Audience Member 2:** 20 mg a day.

[00:07:45] **Dr. Heakyung Kim:** That's very low dose. So, you can go up to 80 mg, sometimes the PM and R we usually like up to very high dose.

[00:07:54] **Audience Member 2:** The fatigue what I was worried about.

[00:08:00] **Dr. Heakyung Kim:** So, do you have fatigue from the Baclofen?

[00:08:02] **Audience Member 2:** I think, yes, I think so.

[00:08:04] **Dr. Heakyung Kim:** Then I think we can try. But could you tell me a little bit about your--?

[00:08:09] **Audience Member 2:** I'm also a caregiver too. So, I can't get fatigued. I mean, I've been fighting this you know, trying to get a dose that I can compromise on.

[00:08:27] **Dr. Heakyung Kim:** But, can I ask you what kind of pain do you have? Where is your pain? And what kind of pain do you have?

[00:08:33] **Audience Member 2:** It's in my abdominal area all the way down to my feet.

[00:08:41] **Dr. Heakyung Kim:** Is it like kind of pins and needle or just aching?

[00:08:44] **Audience Member 2:** Yeah, all of it.

[00:08:48] **Dr. Heakyung Kim:** Are you Dr. Greenberg's patient?

[00:08:51] **Audience Member 2:** Yeah, I'm Dr. Tardos' patient. But I, the thing is I wasn't on Baclofen. Sorry, I

wasn't on Baclofen until I got attacked by a dog. And it just seemed to just like I'm sure my nerves and just, you know, I was a mess.

[00:09:08] **Dr. Heakyung Kim:** I don't know. Sometimes I use the Botulinum toxin for neuropathic pain if that is a kind of nerve pain, pins and needle kind of pain. Sometimes I follow the pain area with the botulinum toxin because of your fatigue we don't want to increase the medication by mouth, right?

[00:09:27] **Audience Member 2:** Yes.

[00:09:27] **Dr. Heakyung Kim:** Because it makes you drowsy. So, if there is a neuropathic type of pain, I usually do use Botulinum toxin into the area where you have that kind of a pins and needle type of pain. It can be and then if you want to give a very low dose of Baclofen, then you have to think about the Intrathecal Baclofen trial. That can be, because it's one hundredth of an oral dose, we can use to be as effective as an oral dose. I don't know, is that an answer to you? You have questions, but we can talk a little.

[00:10:11] **Audience Member 3:** Well, I've got NMO and then I get this pain on my feet specifically and it's from time to time and mostly in the evening at night. and it comes and goes. it's not every single time. It's like, maybe like once or twice a week. And my question is that when do you know when it's time to actually start taking medication for it? Because when it comes, I really can't even sleep. I just have to like, you know?

[00:10:44] **Dr. Heakyung Kim:** That's a very philosophical question, right? Because I'm not the fortune teller. So, I don't know when you have to take the medication. We usually as a physician, we can make a joke, but you can... the diary, right? You can write down your pain pattern, the time and pattern of the pain. Then we can review that one and then we can even think about what time you have to take the medication in regular base. So, for now I cannot answer, but you should write down every day, what time you're having pain, what causes your pain? Those things is going to give us idea how we can tell you what to do.

[00:11:28] **Audience Member 3:** What to do, okay.

[00:11:30] **Dr. Heakyung Kim:** May not, but hopefully. Any other questions I can answer, because I know you guys have to push this process. Thank you so much for having me and please I can answer if you have any questions. Thank you.