Dr. Ayşe Altıntaş

You can watch the video of this podcast at: youtu.be/8lh_dfaRGS0

[00:00:00] **Krissy Dilger:** Welcome to the "Community Meets Clinic" series, a collaborative podcast to introduce the clinicians, clinician-scientists, and healthcare personnel working directly with individuals and families facing a rare neuroimmune diagnosis. Hear directly from those in the clinic and connect with the individuals whose focus is promoting quality of life for those diagnosed with a rare neuroimmune disorder.

[00:00:29] SRNA is a non-profit focused on support, education, and research of rare neuroimmune disorders. You can learn more about us on our website at wearesrna.org. "Community Meets Clinic" is sponsored in part by Amgen; Alexion, AstraZeneca Rare Disease; UCB; and Genentech.

[00:00:52] My name is Krissy Dilger, and I moderated this episode. Today, we meet Dr. Ayşe Altıntaş, a clinician from Koç University. Dr. Altıntaş is a professor of neurology at Koç University School of Medicine. Her work focuses on multiple sclerosis, neuromyelitis optica spectrum disorder, and MOG antibody-associated diseases, with an emphasis on biomarkers and disease mechanisms. You can view her full bio in the podcast description. Thank you so much for joining me today, Dr. Altıntaş. I'm glad to have you on the podcast and excited to learn a bit more about you as well as the clinic at Koç University. So to start, can you tell me a little bit about yourself and what led you to neurology?

[00:01:44] **Dr. Ayşe Altıntaş:** Thank you very much. It's a great pleasure for me to be here today, and thank you for having me.

[00:01:52] Actually, I am a neurologist, and my special interest is in neuroimmunology. During medical school, I decided to become a neurologist in my sixth year actually. There was a graduation thesis in my faculty, and my graduation thesis was about multiple sclerosis. So, I had the chance to work with multiple sclerosis patients, and it was a great experience for me.

[00:02:27] I saw the complexity of the brain and the nervous system. At that time, there were very limited therapies and very limited information about these immune-related neurological diseases. All of those things just made my decision easier to become a neurologist because my aim was to become a clinician-scientist, not only a clinician.

[00:03:07] This is why neurology and immune-related neurological diseases fit my aim very well, because there were lots of questions waiting for answers. I just thought that I could do something for the patients, especially for patients with immune-related neurological diseases. This is why I chose to become a neurologist and also a neuroimmunologist.

[00:03:38] **Krissy Dilger:** Great. Thank you. What led you to focus on rare neuroimmune disorders such as transverse myelitis, ADEM, NMOSD, et cetera?

[00:03:50] **Dr. Ayşe Altıntaş:** Yes. As you mentioned, although they are rare, they affect young adults and also pediatric cases. I thought that there are lots of problems or lots of unanswered topics related to these patients. Misdiagnosis was an important issue for these patients. As a clinician, I wanted to do something for the diagnosis, and this is why I am a member of the international panel to describe the new diagnostic criteria for NMOSD. I'm a panel member, and we are still working on it.

[00:04:48] I think the diagnosis and misdiagnosis rate is still as high as 20% at least, even in really good centers. I think we need more information about these disorders to decrease this misdiagnosis rate. The other thing is that although we have some biomarkers and some targeted treatments—for example, in NMOSD—we still have a group of patients with no targeted treatment, like those with seronegative NMOSD and MOGAD.

[00:05:25] I thought that I could do something for this group of patients. There are lots of things to be done, and we need the young generations—young neurologists—to be interested in rare neuroimmune disorders.

[00:05:48] **Krissy Dilger:** Awesome. That sounds great. And we're looking forward to hearing more about those guidelines once they are published—the NMOSD criteria that you mentioned. So, do you have any particular interest areas that you are working on in research?

[00:06:08] **Dr. Ayşe Altıntaş:** Yes, actually, in the former years, multiple sclerosis was my main area of interest.

[00:06:19] But recently, I can say for at least 10 years, my research has focused on NMOSD and MOGAD. Recently, we have different ongoing research projects regarding the pathogenesis or the biomarkers of these disorders. I would like to mention three of them shortly.

[00:06:48] The first one is to understand the pathogenetic mechanism of optic neuritis. As optic neuritis is very common in NMOSD, MOGAD, and MS, we treat it the same way, but we know that the pathogenesis of these disorders is different. We are trying to understand the pathogenetic differences in optic neuritis in NMOSD patients, MOGAD patients, and seronegative NMOSD patients, as well.

[00:07:26] It is currently in the review period. We finished the first part of the study, and we have some results. Our aim is to do not only basic research but also translational research. We always aim to find something that we can also use for patient treatment or diagnosis.

[00:07:59] The second one is pregnancy. For all these patients, this disease starts during childbearing ages. This is why pregnancy is a special period for these patients regarding their treatment and related issues with the pregnancy itself.

[00:08:26] As we know, pregnancy complications in NMOSD patients are not rare; they are frequent. We also know that the placenta has the aquaporin-4 receptor. We are trying to explore the role of the antibodies during the pregnancy period in aquaporin-4 positive NMOSD cases. This is another very interesting ongoing project, and we are really excited about the results. It is on-going.

[00:08:55] The third one is about biomarkers, because we need biomarkers not only to diagnose the patient but also for follow-up. Our research is focused on NMOSD and MOGAD patients. Recently, there have been some biomarkers described, like GFAP or neurofilaments, in addition to the antibodies.

[00:09:32] For central nervous system disorders, the main biological source is cerebrospinal fluid (CSF), but it is not possible to obtain CSF easily. We can do a lumbar puncture once, but there is no chance for a second. This is why we are trying to find another biological source to follow up on the biomarkers in NMOSD patients.

[00:10:02] If we get good results in the first step, the second step will be to design wearable materials to follow these biomarkers remotely in NMOSD patients. These are some translational, basic research studies ongoing in our laboratories. We are also actively connected with foundations like the Guthrie Jackson Charitable Foundation, SRNA, The MOG Project, the European NMO Association, MEDEN, and the Acute Optic Neuritis Study Project.

[00:10:53] We are really active with both clinical science sites and basic science sites. I'm lucky that I have my own neuroimmunology lab with PhD students. It is a very good opportunity for me to have them, because alone I cannot do anything.

[00:11:17] **Krissy Dilger:** That's amazing. I'm interested to learn about the results of all of those studies, hopefully in the next few years or however long, and have you back on one of our other podcasts to talk about the results of the research.

[00:11:35] **Dr. Ayşe Altıntaş:** Maybe in the future. It will be a pleasure for me.

[00:11:39] **Krissy Dilger:** Definitely. We are honored to have Koç University as one of SRNA's recognized Centers of Excellence in rare neuroimmune disorders. I'd like to give you the chance to share more about your specific neuroimmunology multidisciplinary clinic team. What specialists might a new patient see if they have an appointment with you? How does a new patient get connected with you, and what might that look like?

[00:12:13] **Dr. Ayşe Altıntaş:** Yes. Actually, because these are rare diseases and because they are heterogeneous disorders with comorbidities—especially aquaporin-4 positive NMOSD—patients can have these neurological disorders, but they can also have additional comorbid diseases.

[00:12:40] This is why I believe teamwork, multidisciplinary teamwork, is very important to take care of the patients, to diagnose, to follow up, and to treat. In every step, we need to collaborate with other sub-specialties in medicine. This is why a multidisciplinary team-based demyelinating disease center at Koç University was established a few years ago.

[00:13:11] When a patient comes to me, I see them and spend at least one hour with the patient. There is no restricted time slot for the patient. However long they need, I can spend that time together with them. I believe that a detailed medical history is very critical.

[00:13:40] So, we do a detailed medical history and a detailed neurological examination, and we evaluate all the tests done before coming to Koç University. During this period, I have a very close collaboration with the neuroradiologists and ophthalmologists.

[00:14:07] They are the key colleagues that I have very close contact with. Whatever the patient needs—for example, a rheumatology consultation, urology consultation, ophthalmology consultation, psychiatry consultation, or physical therapy consultation—we can easily organize it.

[00:14:36] We have a really good neuroradiology department. Every week, we have a regular neuroradiology meeting where we evaluate and discuss all the patients together. Within one week, we complete all the investigations and consultations.

[00:15:02] After a week, we can talk to the patient again about the conclusions, the diagnosis, what we need more, and how we will follow up. From the beginning to the end, it is very important to talk to the patient clearly because the decision is not only mine.

[00:15:31] It must be a mutual decision between the patient and the doctor. I can offer the choices, but we make the final decision together with the patient. We are lucky regarding neuroradiology because we have two MRI machines in our hospital, and we can have the MRI investigation done within the same week.

[00:16:05] Also, what is unique about our center is that we can perform special kinds of MRI investigations, including the central vein sign and the paramagnetic rim sign. These are very important radiological markers at the diagnostic and follow-up levels to decide on treatment and differential diagnosis.

[00:16:43] I think we are really lucky to have these opportunities. During this entire period, it is very important that the patient does not feel confused or lost. The organization of these consultations and investigations is very important, and I think we have a really good organization for them.

[00:17:12] **Krissy Dilger:** Sounds like it. That sounds amazing. Thank you for sharing and explaining that. I can imagine as a clinician, especially when you're dealing with so many unknowns with these disorders, that it can be difficult at times. I'd like to know, how do you take care of yourself emotionally? What do you do in your free time that helps you relax or reset?

[00:17:40] **Dr. Ayşe Altıntaş:** Yes, I completely agree with you. If I am fine, I can be more positive and optimistic during the day in my professional life. This is why I define my priorities. Yes, my work is a priority for me because I like to work.

[00:18:06] It's not something I feel forced to do; it's like my hobby. But I have other priorities also, like my family, my friends, my students, and my physical health. This is why, especially recently, I am really careful to spend time on physical exercise to keep myself physically healthy, as well. As I mentioned, I have PhD students and a neuroimmunology lab. It is important for me to have people around me who are optimistic and highly motivated. I believe that happiness is like an infectious disease.

[00:19:10] You can transmit happiness, as well. This is why it is very important for me to be around optimistic people. Viewing work as a hobby makes it something enjoyable, not just something done for money or professional reasons. For example, it is very important to enjoy research.

[00:19:46] It is sometimes stressful, but it's better to decrease the stress and create peaceful social interactions. This is very important to me. This is why I always choose people to work with me who are positive, smiling, and not pessimistic. This also makes me happy.

[00:20:14] **Krissy Dilger:** That sounds like a great plan, and I'm glad it works for you. Is there anything you'd like to share for people with a rare neuroimmune disorder who are considering your clinic for care?

[00:20:31] **Dr. Ayşe Altıntaş:** Because these are rare diseases, general neurologists, general doctors, or family medicine doctors may not know the details. We know the details because we follow current data and literature. This is why I advise patients, especially at the beginning during the diagnostic period, to go to a specialized center to get a correct diagnosis from the beginning. Afterward, they can continue.

[00:21:15] After the diagnosis and after establishing the correct treatment for them, they can just visit their neurologist or their doctors on a regular basis just for control. But for the main decisions, they need to go to specialized centers because these centers—and the doctors in these centers—follow the current literature and they know the current information. They have the current information about the diagnosis, about the follow-up, and about the treatment. So this is why, at the beginning, it's very important to come to a specialized center, and then they can continue with a doctor around them.

[00:22:15] **Krissy Dilger:** Got it. So I always like to end my podcasts with a note of hope. What are you hopeful for in the future of rare neuroimmune disorders?

[00:22:30] **Dr. Ayşe Altıntaş:** Actually, I am really hopeful. Not just because I'm optimistic, but because there are lots of reasons to be hopeful. We have known about MS for many years, but we still don't know the antibody or the exact mechanism of the disease.

[00:22:56] But now, for NMOSD and MOGAD, we have the diagnostic biomarker, and we are really doing well, actually, to understand the mechanism of the disease and design targeted treatments for these disorders. For example, it is a reality now: we have targeted treatments for aquaporin-4 positive NMOSD.

[00:23:27] And for MOG also, I am sure in the near future we will have targeted treatments. This is why I'm really hopeful for the treatment. Also, when you look at the literature and the publications, a lot of publications are just increasing the numbers of publications.

[00:23:53] That means we know a lot, or our knowledge is increasing very fast about these disorders. That means we are getting closer to understanding the details of the disease. I'm really hopeful, and I'll be happy if I can contribute any information that I can also verify or show, and then transmit these results to patient care.

[00:24:34] **Krissy Dilger:** I certainly agree. I think there's so much in the pipeline and the research has come such a long way in the last couple of decades. Thank you so much for your contributions to the research of these disorders and hopefully finding more targeted therapies and biomarkers.

[00:24:56] **Dr. Ayşe Altıntaş:** Thank you very much for having me again. It was a great pleasure for me to talk and just to answer your questions. Thanks a lot.

[00:25:08] **Krissy Dilger:** Thank you to our "Community Meets Clinic" sponsors: Amgen; Alexion, AstraZeneca Rare Disease; UCB; and Genentech. Amgen is focused on the discovery, development, and commercialization of medicines that address critical needs for people impacted by rare, autoimmune, and severe inflammatory diseases. They apply scientific expertise and courage to bring clinically meaningful therapies to patients. Amgen believes science and compassion must work together to transform lives.

[00:25:42] Alexion, AstraZeneca Rare Disease is a global biopharmaceutical company focused on serving patients with severe and rare disorders through the innovation, development, and commercialization of life-transforming therapeutic products. Their goal is to deliver medical breakthroughs where none currently exist, and they are committed to ensuring that patient perspective and community engagement are always at the forefront of their work.

[00:26:11] UCB innovates and delivers solutions that make real improvements for people living with severe diseases. They partner with and listen to patients, caregivers, and stakeholders across the healthcare system to identify promising innovations that create valuable health solutions.

[00:26:30] Founded more than 40 years ago, Genentech is a leading biotechnology company that discovers, develops, manufactures, and commercializes medicines to treat patients with serious and life-threatening medical conditions. The company, a member of the Roche Group, has headquarters in South San Francisco, California. For additional information about the company, please visit www.gene.com.