

Arlotta Clip 2 Transcript

PAOLA ARLOTTA: You think about a patient with schizophrenia that develops a first psychotic episode as an adult. Their brain was made roughly right during development. It worked perfectly fine for many, many, many years. And then it becomes dysfunctional. So it's not a matter of making a cell or breaking a cell. It's a matter of understanding the system and how the system communicates. OK.

What we don't also have is therapy, but that's in common with most of the neurodegenerative diseases. There is one thing that we're beginning to have for neuropsychiatric diseases. And this is stuff for the last two or three years, sort of Steve alluded at it. What do we know now that we never knew about psychiatric patients? What have we done in the last three or four years, is basically what Steve told you last time. Yes.

STUDENT: So recently, patients have allowed us to like take samples of blood and sequence their DNA.

PAOLA ARLOTTA: Fantastic. So it has been possible because of a convergence of technology that allows that. People that were very interested in this, bioinformatics that allows you to decode a very complex type of information. It has been possible to actually sequence the DNA, the genome of many, many-- and I mean many patients and controls. And so by comparing the sequence of these DNA and also looking at family members affected and not affected, twin studies and so on and so forth, we have begun to form a picture of what the genetics of these diseases look like.

Do you remember what that picture tells us though? Is this a disease where I can point at a gene and I say, that's the gene that causes Autism? Go ahead.

STUDENT: It's just a correlational study of what genes appear to be associated with patients who have a certain illness.

PAOLA ARLOTTA: Correct. And do you remember also anything about the genes themselves? Could you pass along a microphone? Thank you.

STUDENT: There's a ton of them. But there was like the one that he pointed out with schizophrenia on the Manhattan plot. They're like, oh, that's one. But then there were a ton.

PAOLA ARLOTTA: All the others are pretty much there. It basically tells you that this is not Mendelian genetics. This is not the color of the peas or the color of the coat. And it's not even a simple combination of genes that can give you a number, an association probabilistic number.