



Treatment Options for Relapsed Diffuse Large B-Cell Lymphoma

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I'm Dr. Aaron Goodman. I'm one of the cell therapists and bone marrow transplantists at the University of California San Diego Moores Cancer Center. And I'm gonna talk about CAR T-Cell Therapy for diffuse large B-Cell lymphoma. And this is a new, promising therapy with FDA approval and is available just about everywhere now, in most states. So, CAR T-Cells, these are Chimeric antigen receptor T-cells, and that's a mouthful, okay, so I'm gonna try to break this up. This is something that's confusing even for physicians, so let's try to see if we can get this straight. So, I'm gonna talk about the main indication, and this is for patients with diffuse large B-cell lymphoma; they have relapsed disease, okay? So, diffuse large B-cell lymphoma is an aggressive B-cell lymphoma. Most patients are treated with upfront chemotherapy, usually combined with an antibody called Rituximab. So, the typical frontline therapy is what we call R-CHOP. And in roughly 60 to maybe upward of 80% of patients, they get six cycles, so a cycle every three weeks, and that results in durable remissions and cures in roughly 60 to 80% of patients, depending on which dataset you look at. And for those where the therapy is not successful (does not work), the next standard treatment would be more chemotherapy, usually, something different than what they got because the first therapy was not effective, and if they respond to that second-line therapy, they would then go on to an autologous stem cell transplantation, okay? And the autologous stem cell transplantation, this is a procedure where we take a patient, and we give them medicine — one's called GCSF, the other one's called Mozobil — and this makes all the stem that sits in their bone marrow, so normally the stem cells live in the bone marrow, it makes them go into the bloodstream. We then hook the patient up to what's kind of like a dialysis machine; it's called an apheresis, where we can filter out the stem cells. We then take the stem cells, and we put them in the freezer, okay? Now, we take the patient and give them a very high dose of chemotherapy, such a high dose that, hopefully, we kill the lymphoma. But the problem is that with such a high dose of chemotherapy, the bone marrow, the stem cells in the bone marrow, won't repopulate, and blood production will cease, so that will be a bad thing to do, but fortunately, we already collected the stem cells, in the freezer, and then we re-infuse them into the patient. And, with that approach, we can here, an aggressive lymphoma that was refractory to frontline treatment in approximately 30 to 50% of patients, okay? However, that still leaves us with a subgroup of patients, maybe 10 to 20% of all newly diagnosed patients, where stem cell transplantation and the front line therapy did not work. Prior to the advance of CAR T-Cells, this group of patients was largely supportive care or palliative treatments that weren't designed to cure the lymphoma.