Blood Cancer Video Library

Management of Treatments of Blood Cancers: Bone Marrow Transplantation and Other Therapies

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Dr. Marco Ruiz: So now we're talking, so we briefly talk about the sort of blood cancers and the first topic of discussion is followed by the means of diagnosis and management of and classification or stratification of these blood cancers, and now we're going to discuss about the management and treatment of these cancers. Of course followed by the role of a bone marrow transplantation. Traditionally this blood cancers we're treating with chemotherapy agents. But it's very interesting because our other options at this point that have changed the scope of practice in terms of blood cancer treatment. And the first group of medications are called immunotherapy which is basically sort of agents that target specific receptors in cancers. They have been used believe it or not over the last 15 to 20 years. They help in terms of in combination with chemotherapy agents, they work very nicely.

And as I said, again, the goal of all these cancers and the treatment of all these blood cancers is to cure patients. So there are things to cure patients when we start treating them. So besides chemotherapy, which of course has some side effects and the common side effects of chemotherapy are nausea, vomiting, diarrhea, persistent inflammation with the whole body and so forth. There are other potential side effects as well that we'll of course we manage in patients. But in terms of immunotherapy, there could be also some complications such as some inflammatory reactions in different parts of the body and so forth. But it's much less compared to the regular conventional chemotherapy. Traditionally what we use is we use immunotherapy combination with chemotherapy for many lymphomas and chemotherapy as such, with some of the

immunotherapies in the form of monoclonal antibodies for acute leukemia's. We use basically other agents such as targeted therapy for chronic leukemia's and we use certain conventional chemotherapy for myleofibrosis and also for myelodysplastic syndrome.

Multiple myeloma is a very unique case in which we don't usually use the plain chemotherapy. We tend to use more sort of real targeted therapy and immunotherapy. Patients who do very well and respond very well. Of course there is a subset of patients with multiple myeloma who are higher risk who may develop more complications, but traditionally these patients respond very well to therapy. So the third line or the third group of interventions, include the practice of targeted therapy. Targeted therapies are, if you will, the sort of the new case of the blood in terms of in hematology, help because targets specific markers in the in blood cancers are very unique because they're specifically attack certain portions of the cancer. And that's very unique in the sense that in terms of side effects, it is very tolerable or highly tolerable.

That doesn't mean that it's a very easy sort of group of drugs to use, but it's of course less, the side effect profile is much less, or the toxicities are much less compared to the regular conventional chemotherapy. Within this immunotherapy, if you will, there is always the option of bone marrow transplant that can be done from the patient or from yourself, which is called autologous bone marrow transportation. Usually that's used for indications of multiple myeloma we said in the segment, in the second segment. And also in the case of [inaudible] in would you, in which we, after treating them and achieving what we call complete remission, patients may go into bone marrow transplantation sort of procedure to consolidate their disease and to just kind of make sure that the patients are well controlled. So within the immunotherapies as well, we have the analogous bone marrow transplants, very efficient and very curative.

But of course with significant side effects. In this case for at bone marrow transportation, allergenic or donorable transplantation, we'll look for donors. We prefer, of course, siblings followed by unrelated much, much unrelated donors followed by [inaudible] donors, meaning either children or parents or up to second degree relatives followed by mismatched donors and mismatched early donors. What I'm trying to tell you here is that for an allogeneic or donor bone marrow transplant the first condition is of course we definitely need to have a donor. Just before we proceed with any sort of further intervention. This is a part of the immunotherapy armamentarium that we have at this point, highly effective because again, this of course can cure many conditions, but at the same time the side effect profile is very, very toxic.

So they side effect profile is very present. There are significant side effects that besides the regular nausea, vomiting, diarrhea, there are other side effects that could be sometimes very complex and as such we need to always this option but also always balancing the potential side effect profile that can make develop from this intervention. Then besides that targeted therapy, immunotherapy, chemotherapy in separate locations, we may use radiation therapy, especially for other cases when we have certain kind of lymphomas. And at that time whenever it's an early kind of [inaudible] lymphoma, with an early stage, we can use traditional therapy and we can potentially cure patients. That could be another potential approach that we use. In our populations, what usually happens is that we use a different, a combination of factors or a combination of different strategies.

So we started using chemotherapy followed by or in combination with immunotherapy followed by an autologous transplant or perhaps followed by a donor [inaudible], followed by perhaps other kinds of targeted therapies. On group of or intervention or one intervention is being developed of the risk over the recent years, of the last two or three years. It's called CAR T Cell therapy and also something called By therapies which is basically the sort of technology manipulation of T Cells from the old patient from a patient to look at and teach the T Cells to basically attack certain receptors of the cancer or the tumors. This is a new technology, very innovative, is basically revolutionized the field of [inaudible]. But it's very important to mention this because we did in the next few years, we're going to have more and more clinical trials looking into how to use and how to incorporate this CAR T Cell therapy in different types of blood cancers.

So far CAR T Cell therapy have been approved for certain cases in leukemia and also has been approved for certain cases of lymphomas, especially the hybrid lymphoma. [inaudible]. And also certain indolent lymphomas that are transforming to more aggressive lymphomas. So to recap this, so there are many ways that we can tackle these blood cancers and usually it's a combination of therapy, usually use chemotherapy, immunotherapy, [inaudible] the presence of CAR T cells, CAR T Cell therapies there. And also the potential use of targeted therapies that have made a big difference and a big impact in terms of the treatment of blood cancers. Again, the intent is to cure. I mean, certain occasions, of course, we may face a case of refractory relapse disease but for which we have other interventions, like the one that I mentioned, bone marrow transplantation from the same patient or from a donor or the presence of CAR T Cell therapy.