Blood Cancer Video Library

Diagnosis and Management of Blood Cancers

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Dr. Marco Ruiz: We're going to talk about the diagnosis and management of blood cancers. In general, we use different approaches for the different blood cancers. Traditionally we look into as part of the diagnostic management, we rely on biopsies of either lymph nodes or other organs that are compromised to make appropriate diagnosis. So the morphologic or the morphology of the disease is very important for us because that tells us whether we're fixing a case of acute leukemia, chronic leukemia or other condition such as lymphoma or multiple myeloma, so forth. And usually, we also rely on the second part of the diagnostic sort of approach to do some imaging studies. In this case we rely on a pet CT scan, which is going to inform us as to whether there are some abnormal tissues, but also whether those tissues are suspicious for cancer or not.

Traditionally also we rely on lab work and we usually check on values of hemoglobin platelets and white cells and other inflammatory markers that are going to tell us whether a lymphoma or acute leukemia or other conditions that the one that we discuss are present or not. Regularly, also we use other more advanced information to classify and stratify those conditions. And we rely on the [inaudible] studies basically looking into the genetic makeup of the patient and also molecular studies looking into the presence of certain mutations that may contribute to the development of any of the blood cancers that we talk or refer about. So then after we rely on the morphology, the diagnostic testing in terms of imaging studies and [inaudible] or genetics and then mutation studies. We look into sort of, we're trying to stratify patients into either low risk, intermediate risk, or high risk.

Of course, that depends on the sort of lung cancer that we're talking about. Let's concentrate a bit for the next couple of minutes on the acute leukemia's for instance. In the setting of acute leukemia's, we usually do blood work followed by bone marrow biopsy. In separate locations we do PET CT scans, or other scans to see whether there's some disease outside of the bone marrow. And then usually we rely on the genetic markers and mutation studies to see whether a patient belongs to the high risk, intermediate, or low risk category. Of course, each risk category has its own approach. And in the case of leukemia's, for instance, whenever we're facing a patient who has or who is in the intermediate risk category or high risk category, we talk to patient and we started discussions for a potential allogeneic or donor bone marrow transplant. And depending on what we call a low risk acute leukemia's, usually patients get treated with chemotherapy followed by consultation with more chemotherapy.

And again, the intent for all these blood cancers is to cure patients. So that's what is really important to talk about this condition. When we talk about lymphomas.. In the case of lymphoma we're relying on the same blood work, imaging studies, and genetics and molecular studies. We're also looking to other factors such as age of the patients, such as where did see these, in terms of whether it's a different parts of the body, only one part of the body, and we're relying on all those different factors to stratify patients based upon this course. And this course that we use is called, the main one for all of these divisions, [inaudible] that allows you to stratify patients into the low, intermediate, or high risk and as such have an idea of in terms of the prognosis of this patient. When we talk about multiple myelomas. We do the same surface studies, blood work, imaging studies, bone marrow biopsy. But the bone biopsy is very important for us because it gives us the information as to whether the patient has or has what we call a high risk multiple myeloma or has a standard risk on a low risk myeloma.

The importance of this is realizing the fact that for patients who are high risk multiple myeloma or usually for all this kind of risk categories, usually bone marrow transportation meaning from the, for the same patient, meaning autologous bone marrow transplantation is being shown improves, that helps in terms of long term survival and long-term without the disease. When we talk about other conditions such as myelodysplasia syndrome, we do the same blood work, followed by imaging studies when needed, and then also followed by bone marrow biopsies. That's going to give us an idea as to what the genetic markers and molecular alterations that are needed for this condition. In the majority of cases of these patients are going to need a sort of a donor or allogeneic bone marrow transplantation. Usually the patients who fall into the high risk category are the ones that aren't going to need that kind of intervention.

While in the other hand, patients who are low risk, they usually need some sort of therapies or chemotherapies to continue or to get the disease under good control. When we talk about myleofibrosis, which is another, again, another bone marrow disease. We're talking about patients who have some issues in producing some of the cells, white cells versus platelets, when we talk about these patients, usually we also do the same algorithms and looking into blood work, imaging studies and a bone marrow biopsy. Looking into the alterations in the genetic makeup of mutation analysis or mutation studies and trying to classify these patients into what we call the low risk or the high risk or intermediate risk. Usually the patients will belong into the risk category. Type two at high risk are usually the patients who are eligible for a bone marrow transplantations, donorable transportation or we call allogeneic bone marrow transplantation. When we talk about other sort of conditions and we briefly touched base about lymphoma.

I think the majority of cases B cell lymphoma, we usually treat with chemotherapy and induction therapy, but we do this sort of a diagnostics, the same ones, and we certified these patients in what we call indolent lymphomas versus aggressive lymphomas. And when we talk about the indolent lymphomas, it's very good to know whether it's indolent or aggressive, simply because in the case of indolent lymphomas, we don't cure these patients. But hardly ever, we need to start some kind of therapy in these patients, they don't have to worry, in some cases, in many cases, I should say, for indolent lymphomas which is going to follow patients and treat accordingly based upon certain diagnostic criteria and treatment criteria. In the case of aggressive lymphomas, we need to treat all these patients, but they tend to treat these patients of course, as I said, for all the cancer is to cure these patients. So when we talk about this diagnostics again, we rely heavily on blood work, imaging studies and also bone marrow biopsies and all the biopsies as needed to look for cytogenetics and molecular [inaudible].