SPEAKER 1: So allogenic transplantation is a useful curative technique for different hematologic malignancies, and also hematologic situations that are not malignant.

So as far as hematologic malignancies, it is very useful for acute leukemias, that is acute myelogenous leukemia and acute lymphoblastic leukemia, and also some cases of chronic leukemias that fail lines of therapy, like chronic myelogenous leukemia. Myelodysplastic Syndromes can also be included in the group of diseases that are treatable with allogeneic transplant. And some types of lymphoma, particularly Non-Hodgkin's lymphoma failing other forms of therapy.

As far as non-malignant conditions that are transplantable with allogenic graft, I would include aplastic anemia, sickle cell disease, and in the case of pediatric transplant, some of the inherited blood disorders that require a transplant. Usually they're disorders of the immune system.

There are cases of acute myelogenous leukemia that have immediate indication of allogenic transplant, right after patients receive induction, chemotherapy, and also consolidation chemotherapy. These indications are defined by cytogenetic and molecular changes.

As far as cytogenetic changes that can make an acute myelogenous leukemia high-risk, well, there are a large number of them, but we can mention deletion of 5, deletion of 7, complex cytogenic abnormalities, which would include three or more cytogenetic abnormalities.

And in addition to this, more recently we know that there are a number of molecular changes, mutations, and other genetic changes that also define high-risk categories that need an allogenic transplant right after initial treatment with chemotherapy. A very common example of this is FLT3, FLAT3 mutations, which in general, almost all the time require, allogenic transplantation.

As far as acute lymphoblastic leukemia, the most common case that requires allogenic transplant are those cases with Philadelphia-Positive cytogenetic translocation. So this is a translocation from chromosome 9 to 22, at the molecular level. This is what we call a BCR-ABL mutation. It's the same sort of mutation that we find in chronic myelogenous leukemia, although a little different in terms of the location of that mutation. But in any case, Philadelphia-Positive acute lymphoblastic leukemia is also a disease that, at this point, should be transplanted after initial treatment, preferably in complete remission and without minimal residual disease.

As far as myelodysplastic syndromes, these are also situations where we use allogenic transplantation frequently, particularly for those defined as high-risk. And also just as is the case in acute myelogenous leukemia, those situations where the myelodysplastic syndrome has cytogenetic or molecular signs that define it as high-risk. And these are usually pretty much the same as the ones that we find in acute myelogenous leukemia.

And the other disorders that may require allogenic transplantation include, lymphomas, particularly like I said, the Non-Hodgkin's variety. These are patients that usually fail multiple lines of therapy, including chemotherapy and also, very commonly, including an autologous transplant, which is usually the first type of transplant that we use for relapsed Non-Hodgkin's lymphoma.

The allogeneic transplantation in lymphoma has different, really outcomes, depending on what you read, but it still is a curable disease through allogeneic transplantation.

As far as the non-malignant diseases, as I said, severe aplastic anemia is a disease that is cured or can be cured with allogenic transplant. This is particularly a useful treatment for young patients with match-related donor. In aplastic anemia, the challenge is engraftment. And of course, the chance of non-engraftment increases as the hystocompatibility disparity increases.