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How does PET/CT help in selecting therapy: update on current trials

Hello, I am Dr. Martin Hutchings from Copenhagen, Denmark. I am here at the EHA Meeting in Milan, and I have been asked the following question, "How does PET-CT help in selecting therapy for patients with Hodgkin lymphoma?" At the time of staging, PET-CT results in the upstaging of 15% to 25% of patients with a potential impact on treatment choice in 10% to 15% of these patients. This, of course, affects the therapy given because in Hodgkin lymphoma the treatment for early stages and advanced stages is quite different. Also, the sensitive imaging has made it possible for the radiotherapist to minimize the sizes and margins of the radiotherapy fields and volumes without loss of disease control. During chemotherapy, PET has high prognostic value. A large number of studies have shown excellent prognostic value after 1, 2, or 3 cycles of chemotherapy. Recent trials in early stage disease, such as the European HD10 trial and the UK RAPID trial, indicate that radiotherapy can be omitted in early PET-negative patients with an approximate 4% reduction in progression-free survival. Multiple trials investigate PET-response adaptive therapy in advanced-stage disease, de-escalation in early PET-negative patients, and escalation in early PET-positive patients. After the completion of chemotherapy at the end of treatment-response assessment, PET-CT also has high prognostic value. So a negative end of treatment PET-CT obviates the need for routine followup imaging. Data from the German HD15 trial and also Canadian retrospective data show that consolidation radiotherapy is not needed in patients who are PET negative after the end of chemotherapy. In relapse disease, PET after induction chemotherapy which is given before the high-dose chemotherapy with autologous stem cell support is highly prognostic as well. So patients who are PET negative after induction chemotherapy have a pretty good prognosis of around 80% at long term, whereas those patients who are still PET positive after induction chemotherapy and who go on with high-dose chemotherapy have only 30% to 35% progression-free survival after couple of years. Now there are trials right now designed to improve the number of PET-negative patients after induction chemotherapy, and also, there are PET-driven strategies that appear promising. In these strategies, PET is, so to speak, used to pick the winner. So, if the patient does not become negative after the first induction regimen, well, the patient can shift to a different and non-cross-resistant regimen and still with a PET negative status and get the same good prognosis as if they had been PET negative after the first regimen. Patients who cannot achieve a PET negative complete remission before high-dose chemotherapy and autologous stem cell support represent an unmet medical need.