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What is the role of PET-CT in relapsed/refractory Hodgkin lymphoma?

I am commonly asked the following question in my clinical practice. What is the role of PET-CT in relapsed and refractory Hodgkin lymphoma? Well, whereas the prognostic value of PET in first-line therapy has been demonstrated quite clearly, there are fewer trials looking at the value of PET-CT in relapsed disease, but there are studies demonstrating that if the patient reaches a negative PET during induction chemotherapy and before high-dose chemotherapy for relapsed disease, the prognosis is quite good even though we are talking about second-line treatment; whereas if the patient fails to reach a negative PET, so if the PET is still positive after induction chemotherapy and before high-dose therapy, the prognosis is quite poor. And interestingly, this is being used in a study performed by colleagues at the Memorial Sloan-Kettering Cancer Center in New York. What they did in that study was they gave regular induction chemotherapy, and that is the ICE regimen in their hands, and if the patient reached a negative PET after 2 cycles of ICE induction chemotherapy, the patient would go onto the planned high-dose chemotherapy and transplant, and the patients did well as we would expect. But if the patient was still PET positive after 2 cycles of ICE, instead of going to transplant and meeting a poor prognosis of perhaps 30% or 35% expected progression-free survival, the patient would receive another non-cross-resistant regimen called the GVD. All patients after that would go onto the high-dose chemotherapy and autologous stem cell transplantation. Interestingly, what the authors show us is that even if you are PET positive after the first induction chemotherapy, if the patient reaches a negative PET after the second try with GVD, the prognosis after high-dose chemotherapy is just as good, and that was true for half of the patients who were PET positive first; they turned PET negative and had the same good prognosis as the patients who were negative on their PET after initial induction chemotherapy. So that is really an elegant study showing the value of a PET-directed strategy in relapsed disease.