Early PET Predictive in Barrett-Related Cancer

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COLORADO SPRINGS — The early metabolic response to induction chemotherapy as assessed by fluorodeoxyglucose-PET just 2 weeks into the treatment of patients with locally advanced Barrett cancer reliably distinguishes those who will have low recurrence and favorable long-term survival post resection from those with a poor prognosis, Dr. Joerg R. Siewert said at the annual meeting of the American Surgical Association.

"This suggests FDG-PET can be used to tailor treatment according to the chemosensitivity of tumors. Early response evaluation after induction chemotherapy opens the door to a more individualized therapy in Barrett's cancer," added Dr. Siewert, professor and chairman of surgery at Technical University of Munich.

Patients without a metabolic response after the first 2 weeks can be spared the morbidity and expense of the remaining 10 weeks of the course of chemotherapy, since they are unlikely to benefit from it, he said.

Dr. Siewert reported on 104 patients with locally advanced adenocarcinoma of the esophagus or esophagogastric junction who had a baseline FDG-PET and then were placed on induction chemotherapy before planned tumor resection. After 2 weeks of chemotherapy they had a second FDG-PET, at which point 48% were classified as responders based on at least a 35% reduction in tumor metabolic activity. Responders continued on chemotherapy for 10 more weeks before resection, whereas nonresponders stopped chemotherapy and had palliative surgery based on prior studies indicating that further chemotherapy would be of little benefit.

Curative R0 resection was achieved in 96% of responders, compared with 74% of nonresponders. Overall, 20% of responders and 62% of nonresponders had lymph node involvement. Of early metabolic responders, 58% experienced major histologic remission after resection, as did none of the nonresponders. The distant recurrence rate was 16% in responders, compared with 29% in nonresponders. Median overall survival was more than 5 years in responders and less than 26 months in nonresponders.

Induction chemotherapy did not adversely affect surgical risk. Postoperative complications occurred in 34% of patients and in-hospital mortality in 2%, with similar rates in the two groups.

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DR. SIEWERT

The superior survival in the PET-defined early metabolic responders can probably be explained by their more radical resectability and more favorable lymph node–based tumor staging, according to Dr. Siewert.

Discussant Dr. Murray F. Brennan, chairman of surgery at Memorial Sloan-Kettering Cancer Center, New York, noted that the patients in Dr. Siewert's study were classified as AEG I/II. In Dr. Brennan's own work with AEG III patients having subcardial gastric cancer, he has been unable to show any prognostic significance for an early metabolic response at 2 weeks. Instead, he sees a prognostic value only when FDG-PET is done after 30 days of chemotherapy and at a threshold of at least a 50% reduction in tumor metabolic activity.

Dr. Siewert replied that he, too, observed a difference in the early prognostic value of PET between AEG I/II and III patients.

Audience members asked how Dr. Siewert manages the early PET nonresponders, given their poor outcomes in this trial. He replied that it's an open question. In another study, he gave early nonresponders a course of chemoradiation, but few responded.

"It's easy to treat the responders. They are always the winners," Dr. Siewert observed. "The problem is how to treat the nonresponders. I have a feeling that it's not a good idea to change to chemoradiation, because the preliminary results are not promising. For the moment, I think the best treatment option for the nonresponders is still palliative surgical resection, but we have to wait for further trials to make definitive statements."

All papers presented at the 127th annual meeting of the ASA are submitted to the Annals of Surgery for consideration. ■