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Comparing RECIST and Choi's Criteria to Evaluate Radiological Response to Chemotherapy in Patients with Advanced Pancreatic Cancer

Silvia Vecchiarelli[1], Marina Macchini[1], Claudio Ricci[2], Marielda D'Ambra[2], Riccardo Casadei[2], Lucia Calculli[3], Fabio Ferroni[3], Raffaele Pezzilli[4], Elisa Grassi[1], Francesco Minni[2], Guido Biasco[1], Mariacristina di Marco[1]

Departments of [1]Oncology, [2]Surgery, [3]Radiology, and [4]Internal Medicine, "Sant'Orsola-Malpighi" Hospital. Bologna, Italy

Context Assessment of response after chemotherapy (CTH) for pancreatic cancer (PC) is currently based on RECIST criteria. In 2007 Choi *et al*. published a new classification system. **Objectives** To evaluate the accuracy of the two classification systems for radiological response to CTH in patients affected by advanced PC. **Methods** From 2006 to 2011, 61 untreated patients affected by advanced pancreatic adenocarcinoma underwent palliative CTH. Thirty-seven (60.7 %) had a locally advanced PC and 24 (39.3%) a metastatic disease. All patients were treated with a bemcitabine-based CTH. We assessed radiological response after three months of first-line therapy applying both RECIST criteria and Choi's criteria, which consider changes both in size and in density at CT. We evaluated the accuracy in restaging, comparing the class of response with overall survival (OS). OS was calculated with Kaplan-Meier method. The concordance with the two classification systems was evaluated with Kendall's test. The accuracy in restaging was assessed through log rank test. **Results** At restaging, using RECIST criteria, we registered 6 (9.8%) patients with partial response (PR), 32 (52.5%) with stable disease (SD), and 23 (37.7%) with disease progression (PD). Instead Choi's criteria assessed 18 PR (29.5%), 12 SD (19.7%) and 31 PD (50.8%). The concordance test showed that the two systems matched (P<0.001). Comparing each classification with OS, we observed that patients with different prognosis were better stratified with Choi's criteria. Using RECIST criteria we did not found any significant difference in OS between patients with PR (12 months), SD (16 months) and PD (10 months). Using Choi's criteria we found that OS in patients with PR was similar to patients with SD with 16 and 19 months (P=0.634). Patients with PR had an OS significantly higher than patients with PD (16 *vs*. 9 months; P=0.009; RR=2.3). **Conclusions** Choi's criteria seem to better assess radiological response of CTH in PC patients than RECIST criteria. Due to the small number of patients, larger prospective studies are needed.