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PANCREATIC CANCER

Inflammatory index to predict survival

Patients diagnosed with advanced-stage, inoperable pancreatic cancer have a dismal prognosis, with fewer than 5% surviving more than 5 years. Cancer-related systemic inflammation might alter response to chemotherapy; however, the correlation between systemic inflammatory response and survival following chemotherapy has not been investigated in pancreatic cancer. Now, researchers have developed a systemic inflammatory response index (SIRI) by measuring peripheral levels of neutrophils, monocytes, and lymphocytes to predict the survival of patients with advanced-stage pancreatic cancer following gemcitabine-based chemotherapy.

In total, 574 patients were enrolled in the study; the predictive SIRI was developed and tested in a training set consisting of 177 patients and validated in two independent cohorts (comprising a total of 397 patients). In the training cohort, the median time to progression (TTP) was significantly longer for patients with an SIRI of >1.8 compared with those with an SIRI of <1.8. The correlation between SIRI and TTP was confirmed in the two validation cohorts, with a SIRI <1.8 predicting prolonged TTP.

The median overall survival was longer for patients with a SIRI of <1.8 versus those with a SIRI of >1.8 (379 days versus 156 days). This result was mirrored in both validation cohorts, and univariate and multivariate analyses confirmed the SIRI had better prognostic value than other clinical parameters, such as the neutrophi l:lymphocyte ratio or the lymphocyte:monocyte ratio. Furthermore, at week 8, an increased SIRI score was associated with a shorter TTP and worse survival, whereas a decreased SIRI score was linked with improved outcomes. In summary, the SIRI is a non-invasive method for predicting the survival of patients with advanced-stage pancreatic cancer after chemotherapy.

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ORIGINAL ARTICLE Qi, Q. *et al.* A novel systemic inflammation response index (SIRI) for predicting the survival of patients with pancreatic cancer after chemotherapy. *Cancer* http://dx.doi.org/10.1002/cncr.30057 (2016)