Decrement of Serum CA 19-9 Concentration after Initial Chemotherapy Predicts Favorable Outcome in Patients with Advanced Pancreatic Cancer

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Introduction: Carbohydrate antigen 19-9 (CA 19-9) is a well-acknowledged tumor marker for pancreatic ductal adenocarcinoma (PDAC). However, its role for predicting treatment outcome remains to be elucidated. The purpose of this study is to identify the correlation between early decrement in CA 19-9 concentration and prognosis of PDAC after chemotherapy.

Methods: Serum CA 19-9 concentrations at baseline and 8 weeks after the initiation of the chemotherapy were obtained in patients with unresectable PDAC. The correlation between CA 19-9 decrement and survival outcomes (time to progression [TTP] and overall survival [OS]) were evaluated.

Results: A total of 183 patients with initially elevated CA 19-9 were included. For patients whose serum CA 19-9 concentration at 8 weeks after the initiation of the chemotherapy decreased more than 10% from baseline (n = 103), TTP was significantly longer than that for patients whose serum CA 19-9 was not decreased (n = 80). (222 days vs. 75 days, P < 0.001) and OS also was significantly longer than that for patients whose serum CA 19-9 was not decreased (423 days vs. 155 days, P < 0.001). In multivariate analysis, CA19-9 decrement more than 10% from baseline was still a significant factor for longer TTP (hazard ratio for progression 0.322 [0.219 – 0.473], P < 0.001) and also for OS (0.275 [0.184 – 0.412], P < 0.001) in both stage III and IV.

Conclusion: The decrement of CA 19-9 concentrations more than 10% from baseline at 8 weeks after the initiation of chemotherapy was an independent factor related with better survival outcomes in unresectable PDAC.