Systemic chemotherapy does not prolong survival in patients with metastatic low grade appendiceal mucinous adenocarcinoma
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Background: Appendiceal cancer is a rare malignancy that exhibits a wide range of histology and treatment response. Given the rarity and heterogeneous nature of the disease, it has been difficult to define optimal treatment strategies. Our goal is to examine the association between use of systemic chemotherapy and survival in patients with metastatic low-grade mucinous appendiceal adenocarcinoma.

Methods: The National Cancer Database (2004-2015) was queried, and patients with mucinous, grade 1, stage IV appendiceal adenocarcinoma were identified. The Kaplan-Meier method was used to calculate survival, and a Cox regression model was used to identify predictors of survival.

Results: 575 patients were identified. Five-year overall survival for patients undergoing no chemotherapy versus chemotherapy was 52% and 61%, respectively. After adjusting with Cox proportional hazards model, chemotherapy was not associated with overall survival (HR:0.92, 95%CI:0.70-1.21, p=0.53). There was an increased risk of death for patients who had higher Charlson Comorbidity score (HR:3.8, 95%CI:2.2-6.7, p<0.001) or were older (HR:1.03, 95%CI:1.02-1.04, p<0.001). Patients who underwent surgical resection (HR:0.37, 95%CI:0.26-0.52, p<0.001) or were female (HR:0.6, 95%CI:0.5-0.8, p<0.001) had a decreased risk of death.

Conclusion: There is no association between undergoing chemotherapy and overall survival in this cohort of patients with stage IV low-grade mucinous appendiceal adenocarcinoma. Development of national treatment guidelines is urgently needed for more consistency in the management of patients with appendiceal cancers.

Figure 1: Adjusted Survival Curve