

**Predictive value of ART scoring system in evaluating prognosis after transarterial chemoembolization for hepatocellular carcinoma patients**

**OBJECTIVE :** TACE is the first-line treatment for middle-stage hepatocellular carcinoma patients. However, some patients may not benefit from TACE retreatment under some situations, TACE retreatment may lead to deterioration of liver function or elicit a poorer prognosis. ART (assessment for retreatment with TACE) score evaluates whether hepatocellular carcinoma (HCC) patients can benefit from transcatheter arterial chemoembolization (TACE) retreatments. As previously reported, TACE has a good prognostic effect on patients with ART score of 0-1.5, while patients with ART score  $\geq 2.5$  might have minor or even no prognostic benefits. This study is to explore value of ART scoring system for predicting the prognosis and guiding multiple transcatheter arterial chemoembolization (TACE) treatment of the patients with Barcelona clinic liver cancer stage B hepatocellular carcinoma (HCC).

**METHODS:** During the period from January 3 2013 to September 10 2016 at Shandong Cancer Hospital, a total of 100 patients were treated with TACE. The clinical data were retrospectively analyzed. Based on the clinical materials the prognosis and survival rate were analyzed. The ART score system was used to predict the overall survival of the patients.

**RESULTS:** The median follow-up time of 100 patients with HCC was 12.2(5.6-23.6) months. The median survival time was 26.0(2-77) months. 60 patients showed a low ART score (0-1.5) and 40 had a high ART score ( $\geq 2.5$ ); the median OS was 25 and 16 months, respectively, the difference was statistically significant ( $\chi^2=5.055, P=0.025$ ). There was no statistically significant association in survival between ages, genders, ethnicities, history of hepatitis and alpha-fetoprotein levels ( $P>0.05$ ).

**CONCLUSIONS:** Transcatheter arterial chemoembolization is safe and effective in the treatment of liver cancer, and its survival rate can be significantly improved. The prognosis and survival rate of patients with TACE can be predicted and evaluated by ART score.