

**VALIDATION OF TNM STAGING SYSTEM FOR HEPATOCELLULAR CARCINOMA:
ANALYSIS OF 5,686 CASES FROM A MEDICAL CENTER IN SOUTHERN TAIWAN**

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BACKGROUND/AIMS: TNM staging system for hepatocellular carcinoma (HCC) is used worldwide. We tried to validate the 5th and 6th edition of TNM system.

METHODS: From 1986 to 2002, a total of 5,686 HCC cases were recruited from Kaohsiung Chang Gung Memorial Hospital in southern Taiwan. All national mortality datasets before the end of 2004 were obtained. The survival curves were described by the Kaplan-Meier survival curve and were tested by log-rank test. The Akaike information criteria (AIC) within a Cox proportional hazard regression model were used to show the discriminatory ability for staging system. In the analyses of the 6th edition TNM, we tried to divide stage I into stage IA (single tumor, ≤ 2 cm) and IB (single tumor, > 2 cm), and divided stage II into IIA (multiple tumors, none > 5 cm) and IIB (single tumor with vascular invasion).

RESULTS: For the 6th edition TNM, there was no difference among stages IIIA, IIIB or IIIC. For the new modified 6th edition TNM, no difference of survival between stages IB and IIA, as well as stages IIB and III. Survival curves without significant difference were combined as one curve. The AIC of the 5th, 6th and the new modified 6th edition TNM were 73,508, 73,363 and 73,220 respectively. The patient distributions of the new modified 6th edition TNM stages I, II, III and IV were 7.8%, 51%, 40% and 1.2%.

DISCUSSION/CONCLUSIONS: According to this large scale analysis, the new modified 6th TNM system demonstrated better survival prediction and was simpler and easier to use.

Key words: Hepatocellular carcinoma, TNM staging, survival.