

中文題目：使用甲型胎兒蛋白、白蛋白與腫瘤負荷分數建立一個術前的模型預測早期肝細胞癌的微血管侵犯

英文題目：A new model based on preoperative AFP, albumin, and tumor burden score for predicting microvascular invasion in early-stage HCC

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Background and aims:

Microscopic vascular invasion (MVI) has been demonstrated as a strong risk factor associated with tumor recurrence and poor overall survival among hepatocellular carcinoma (HCC) patients after resection, but the preoperative prediction of MVI is still challenging. We aimed to build and validate a novel model to predict MVI in the preoperative setting.

Patients and Methods:

We retrospectively collected 857 patients with Barcelona Clinic Liver Cancer (BCLC) stage 0 or A HCC who underwent primary resection at Kaohsiung Chang Gung Hospital between January 2001 and June 2016. The patients were randomized into derivation (n = 648) and validation groups (n = 209). Logistic regression analysis was used to screen out independent risk factors for MVI and further constructed a predictive model for MVI. Prediction performance was compared by the area under the receiver operating characteristic curve (AUC).

Results:

The multivariable logistic regression analysis of the training cohort found that alpha-fetoprotein (AFP) ≥ 20 ng/mL (OR = 1.96, 95% CI: 1.41–2.73, $p < 0.001$), albumin < 3.5 g/dL (OR = 1.48, 95% CI: 1.06–2.05, $p = 0.019$) and tumor burden score (TBS) ≥ 8.6 (OR = 2.54, 95% CI: 1.49–4.35, $p = 0.001$) to be independent risk factors for MVI. The three factors were chosen to build a model for prediction of MVI. The AUC for the training and validation group was 0.619 (95% CI: 0.575–0.663) and 0.642 (95% CI: 0.562–0.722), respectively, and the calibration plot showed good performance of the prediction model, with a low mean absolute error at 0.01.

Conclusions:

The new model comprised AFP, albumin, and TBS that can predict risk of MVI for early-stage HCC