SCORING SYSTEM TO PREDICT WOUND HEALING IN CRITICAL LIMB ISCHEMIA WITH TISSUE LOSS FOLLOWING ENDOVASCULAR TREATMENT

Poster Contributions
Hall C
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Background: This study was conducted to design a scoring system for predicting wound healing in critical limb ischemia (CLI) treated with endovascular therapy (EVT). Although the Wagner and the University of Texas wound classification systems are available for diabetic foot ulcer, there is no scoring system for CLI patients.

Methods: Between April 2007 and October 2012, 184 CLI patients (217 limbs) with tissue loss were treated by EVT. In these limbs, 236 individual wounds existed and were divided into a development (n=118) and a validation cohort (n=118). Predictors of wound healing were analyzed using Cox hazard analysis.

Results: Multivariate Cox hazard analysis revealed that Texas grade ≥2 (HR 0.531, 95% CI 0.292-0.965, p=0.038), infectious wound (HR 0.529, 95% CI 0.295-0.950, P=0.033), dependence on hemodialysis (HR 0.469, 95% CI 0.264-0.833, P=0.010), no direct blood flow to wounds (HR 0.340, 95% CI 0.139-0.832, P=0.018) and not toe wounds (HR 0.316, 95% CI 0.160-0.624, p=0.001) were adverse predictors of wound healing. Each predictor was assigned score based on their regression coefficients and total scores were calculated. Total score 0 to 1 were considered low-risk, 2 to 3 intermediate-risk, and 4 or greater high-risk for wound un-healing. The area under the receiver operating characteristics curve was 0.922 in the development cohort and 0.808 in the validation cohort. Rates of wound healing at 1 year in low-, intermediate-, and high-risk were 94.6%, 67.6%, and 9.1%, respectively, in the development cohort (P<0.001), and 92.3%, 70.5%, and 31.3%, respectively, in the validation cohort (P<0.001).

Conclusions: This scoring system is useful to predict wound healing in CLI.