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Predictability of MEST-C score on the outcomes of children and adult patients with Henoch-Schölein nephritis

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Objectives: Henoch-Schölein nephritis, one of small-vessel vasculitis, shares many pathologic features with immunoglobulin A nephropathy. Oxford classification for the pathology of immunoglobulin A nephropathy has been updated to the MEST-C score, but its application to the Henoch-Schönlein nephritis remains unresolved.
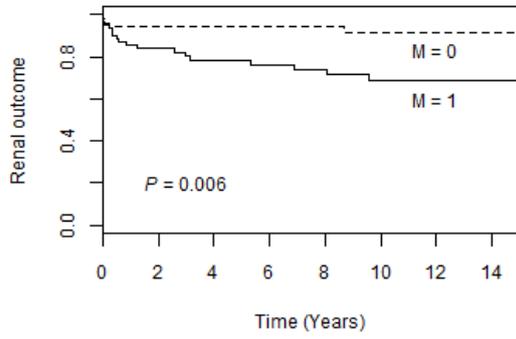
Methods: A total of 214 patients with biopsy-proven Henoch-Schönlein nephritis were recruited from the Seoul National University of Hospital between 2000 and 2017. Among them, 113 children (aged <18 years) and 101 adults (aged ≥18 years) were identified, and their renal pathologies were re-classified by the MEST-C score. Primary outcome was the event of end-stage renal disease or doubling of serum creatinine, and hazard ratio (HR) for this outcome was calculated by the stratification of age (i.e., children and adults).

Results: 21 children (19%) and 16 adult patients (16%) reached the primary outcome during the median follow-up period of 10 years (maximum 18 years). In children patients, M1 (mesangial cellularity ≥50%) and T1/T2 (tubular atrophy/interstitial fibrosis >26%) showed poorer outcomes than M0 and T0, respectively, whereas T1/T2 alone showed worse outcomes than T0 in adult patients. These scores remained significant despite adjustment of other covariates including age, sex, and estimated glomerular filtration rate as following HR and P values: 3.5 [1.10–10.90] and 0.034 in M1 of children; 9.8 [1.93–49.74] and 0.006 in T1/T2 of children; and 4.3 [1.12–16.22] and 0.033 in T1/T2 of adults.
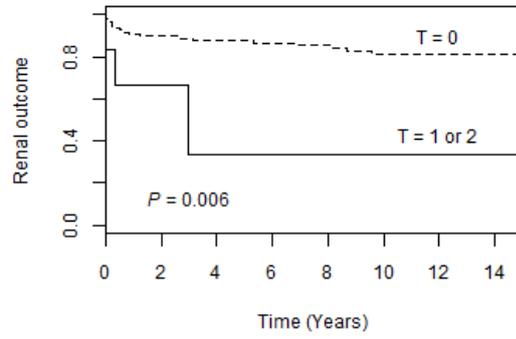
Conclusions: M and T scores of Oxford classification can predict the long-term renal outcome of Henoch-Schönlein nephritis.
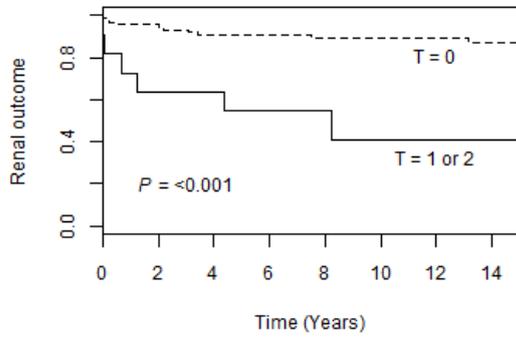
Figure 1. Kaplan-Meier curve according to the MEST-C score

Children, M

Children, T

Adult, T

Adult, C