Reumatologia | Casuística / Investigação

CO-029 - (22SPP-11981) - URINARY HER2: A NEW BIOMARKER OF PEDIATRIC LUPUS NEPHRITIS ACTIVITY

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Introdução e Objectivos

Detecting active lupus nephritis in a background of pre-existing renal damage is challenging, so new biomarkers are much needed to guide clinical practice. Recently, we showed that HER2 is highly expressed in the kidneys of patients with lupus nephritis and in NZM2410 mice, but not in healthy individuals or patients with other mesangioproliferative glomerulonephritides. Furthermore, we showed, in vitro, that HER2 controls mesangial cell proliferation through miR-26a and miR-30b. In this study, we explored the clinical utility of urinary HER2 (uHER2) as a biomarker of lupus nephritis activity.

Metodologia

Prospective, multicenter, study of children and adolescents with biopsy-proven lupus nephritis. Clinical data and urine were collected periodically and uHER2 was quantified by ELISA. The control groups were: healthy individuals, patients with polyarticular juvenile idiopathic arthritis (pJIA) and patients submitted to bone marrow transplant with acute kidney injury (AKI). A validation study was performed in an adult cohort.

Resultados

We studied 771 samples of 113 children and adolescents with lupus nephritis (81% female; median age 15; 41% class IV). uHER2 was significantly increased in patients with active lupus nephritis (renal-SLEDAI≥4; $p=0.006$) and not in children with AKI (n=50) or pJIA (n=20). uHER2 levels were associated with casts, hematuria and new onset proteinuria ($p<0.05$). Furthermore, uHER2 was significantly elevated in clinical visits prior to a renal SLEDAI≥4 ($p<0.05$).In adults with SLE (n=189; 126 with lupus nephritis) uHER2 was significantly increased when nephritis was active.

Conclusões

In this prospective study of a large cohort of pediatric patients with lupus nephritis we showed that uHER2 is a biomarker of disease activity.

Palavras-chave : lúpus eritematoso sistémico, nefrite lúpica, HER2