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ULTRA-LOW DOSE RITUXIMAB REGIMEN FOR THE TREATMENT OF LUPUS NEPHRITIS: A PRELIMINARY OBSERVATIONAL STUDY

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Introduction: Anti-CD20 monoclonal antibody Rituximab (RTX) has been widely used in the treatment of refractory or relapsed lupus nephritis (LN), but the optimal regimen and dosage of RTX have not been defined. In this study, we investigate the clinical efficacy and safety of ultra-low dose Rituximab regimen for the treatment of LN.

Methods: Patients with renal biopsy-proven active LN were treated with ultra-low dose Rituximab regimen (RTX 100mg/w×4w followed by RTX 100mg every 2-3 months for 12 months) in combination with glucocorticoids and immunosuppressive drugs. B cell depletion and B cell complete depletion were defined as CD19+ B < 5 cells/mm3 and CD19+ B < 1 cell/mm³ respectively, and B cell reconstruction was defined as CD19 + B ≥ 5 cells/mm³. Clinical efficacy and adverse events were retrospectively analyzed within 12 months treatment.

Results: Thirty-four LN patients including 19 refractory, 8 relapsed and 7 new onset LN were included in this study. Before RTX treatment, 11 patients showed nephrotic syndrome, 8 patients had acute renal injury (AKI) and 7 patients also presented with severe autoimmunity hemolytic anemia or Autoimmune thrombocytopenia. In addition to RTX, all patients received immunosuppressant including calcineurin inhibitors (n=30) or mycophenolate mofetil (n=4). After four ultra-low dose RTX treatment, 33 patients (97.1%) achieved B cell complete depletion. 23(67.6%) and 18(52.9%) of patients showed sustained B cell depletion and B cell complete depletion within 12 months of RTX treatment. Totally, 32 patients (94.1%) achieved remission and 12 (35.3%) achieved complete remission. AKI was recovered in 7 (87.5%) patients with AKI on admission, severe hematological disorders in 7 patients got remission. No significant difference in remission rates was found among refractory LN (94.7%), relapsed LN (100%) and new onset LN (85.7%), but complete remission rate was significantly higher in new onset LN patients than that in refractory LN (71.4% vs 21.4%, p=0.024). Two patients relapsed at month 7 and 9 respectively, and their B cell showed reconstruction. Infection occurred in 3 patients within the first 3 months, no patient died.

Conclusions: Ultra-low dose RTX regimen for lupus nephritis showed a promising efficiency, especially for new onset patients. It is worth carrying out a prospective controlled study of ultra-low dose RTX regimen in the treatment of LN.

No conflict of interest

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AN “IMPROVED” EGFR SLOPE IS ASSOCIATED WITH HOSPITALIZATION EVENTS

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Introduction: An annual decline in the estimated glomerular filtration rate (eGFR) is a marker of subsequent cardiovascular (CV) and renal events. Although the risks are high at both the positive and negative ends of changes in eGFR, the underlying mechanisms of increased risks in individuals with a positive slope have not been fully elucidated. We hypothesized that hospitalization events affect the trajectory of the eGFR and investigated the association between annual changes in the eGFR and hospitalization.

Methods: The eligible participants included 76,418 corporate insurance beneficiaries who underwent at least one health examination and two or more measurements of the eGFR between April 2014 and March 2019. Annual changes in the eGFR were estimated using linear mixed-effect models. The participants were stratified according to eGFR slope categories (≥0, <1 to 0, ≤-2 to -1, and < -2 mL/min/1.73 m²/year). Hospitalizations were assessed using the administrative claims database. Outcomes were defined as any type of hospitalization, CV-related hospitalization, and cancer-related hospitalization. Cause-specific hospitalizations were identified based on the International Classification of Diseases 10th Revision codes in the Diagnosis Procedure Combination data derived from administrative claims data. We defined CV-related hospitalization as hospitalization due to any of the following conditions: myocardial infarction, congestive heart failure, and stroke.

Results: The mean age was 45 years and 40% of the participants were female. The body mass index increased as the annual slope increased, while the eGFR showed a U-shape in the association with the slope category. The most progressive slope group (≥-2 mL/min/1.73 m²/year) included many subjects with eGFRs greater than 90 mL/min/1.73 m². A total of 4752 hospitalization events were identified, of which 482 were CV-related and 321 were cancer-related hospitalizations. Restricted cubic splines analyses showed U-shaped associations between the eGFR slope and hospitalization, especially for cancer-related hospitalization.

Conclusions: Our study showed that not only is a negative slope associated with an increased risk of any, CV-related, and cancer-related hospitalizations, but a positive slope is also associated with any hospitalization. Hospitalization events can reduce muscle mass, which may lead to an increased eGFR. However, this does not necessarily result in recovery of or improvement in kidney function. Individuals with reduced muscle mass due to hospitalizations may be falsely recognized as “kidney function improvers.” Authorities should consider this issue when they utilize the annual slope as a surrogate marker for drug approval.

No conflict of interest

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AKI IS A USEFUL PREDICTOR OF POOR OUTCOMES IN COVID-19

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Introduction: COVID-19 poses the greatest acute global challenge in modern day healthcare. Clinical authorities worldwide deem patients with CKD to be at increased risk of mortality. In patients with COVID-19, kidney involvement is a common complication of COVID-19 infection but mortality outcome data for renal subgroups is lacking.

We aim to compare and contrast mortality rates for COVID-positive patients with AKI and CKD, including those receiving dialysis. Included are data for rate of admission to ITU (escalated), and requirement for renal replacement therapy (RRT) and/or ventilatory support.

Methods: Data is presented from Morriston Hospital which coordinates renal services for South West Wales, UK. Observational analysis included 61 COVID-positive patients (n=61; mean age 65y). Patients were stratified according to their renal status at the time of positive test.

Results: Chronic Kidney Disease (n=11; mean age 72y) - 6 survived (2 required acute HD and remain on HD). 4 died (2 received acute HD and subsequently died).

Chronic HD (n=20; mean age 60y) – 10 survived and remain on HD. 10 died (1 patient escalated but not ventilated).