

## Characteristics and outcomes of biopsy-proven lupus nephritis in the Eastern Cape Province of South Africa

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### Abstract

**Background:** In Africa, the treatment outcomes of biopsy-proven lupus nephritis (LN) are not well known. This is especially true in the current era where evidence-based treatment options are more widely available.

**Methods:** We undertook a retrospective study of 131 patients with biopsy-proven LN who were treated at the Livingstone Tertiary Hospital (LTH) Renal Unit in Gqeberha, South Africa and who underwent kidney biopsy between 01 January 2012 and 31 December 2021. Sub-analysis of 107 patients with Class III/IV/V LN was performed. Response was defined as per KDIGO 2021 guidelines.

**Results:** Mean age was  $31.4 \pm 12.7$  years; females 86.3%. At 6-months follow-up, 68.9% of patients had complete or partial response to treatment. This increased to 70.3% and 72.6% at 18 and 30 months, respectively. Twenty-three patients were lost to follow-up, while 7 (5.3%) patients progressed to kidney failure. There were 3 (2.3%) deaths. Predictors of poor response included elevated baseline serum creatinine (OR = 2.53, 95% CI 0.99 – 6.52,  $p = 0.054$ ), decreased eGFR (OR = 2.92, 95% CI 0.94 – 9.09,  $p = 0.065$ ) and elevated blood pressure (OR = 6.06, 95% CI 1.11 – 33.33,  $p = 0.038$ ) at biopsy. There was no difference in response between those receiving mycophenolic acid derivatives or cyclophosphamide for induction ( $p=0.459$ ). Infections were the most common adverse event with 50 infections seen in 39 (29.8%) patients. Herpes viral infections were frequently noted ( $n=12$ ) accounting for 24.0% of all documented infections.

**Conclusion:** Response rates were similar in this cohort compared to other contemporary studies. Predictors of poor response included elevated baseline serum creatinine, decreased eGFR and an elevated blood pressure at time of the biopsy. There were no significant differences in outcomes between cyclophosphamide and mycophenolate as induction agents. Infections were the most common adverse event, although the mortality rate remained low at 2.3%.