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Familial risks of glomerulonephritis - a nationwide family study in Sweden

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Background: Familial risks of glomerulonephritis (acute-, chronic and unspecified glomerulonephritis) are not studied. This study aimed to determine the familial risks of glomerulonephritis.

Methods: Individuals born from 1932 onwards diagnosed with glomerulonephritis (acute [n=7011], chronic [n=10242], and unspecified glomerulonephritis [n=5762]) included. The familial risk (Standardized incidence ratio=SIR) was calculated for individuals whose parents/full-siblings were diagnosed with glomerulonephritis compared to those whose parents/full-siblings were not. The procedure was repeated for spouses. Familial concordant risk (same disease in proband and exposed relative) and discordant risk (different disease in proband and exposed relative) of glomerulonephritis were determined.

Results: Familial concordant risks (parents/full-sibling history) were: SIR=3.57 (95% confidence interval CI, 2.77-4.53) for acute glomerulonephritis, 3.84 (95% CI, 3.37-4.36) for chronic glomerulonephritis and 3.75 (95% CI, 2.85-4.83) for unspecified glomerulonephritis. Very high familial risks were observed if two or more relatives were affected, SIR was 209.83 (95% CI, 150.51-284.87) in individuals with at least one affected parent and full-sibling. The spouse risk was moderately increased (SIR=1.53, 1.33-1.75).

Conclusions: Family history of glomerulonephritis is a strong predictor for glomerulonephritis, and is a potential useful tool in clinical risk assessment. Our data emphasize the contribution of familial factors (genetic and environmental) to the glomerulonephritis burden in the community.