SIGNIFICANCE STATEMENT

With increased metabolic demand and loss of functioning nephrons, glomeruli increase in size. The clinical characteristics associated with glomerular size have not been assessed separately for nonsclerosed and globally sclerosed glomeruli. This study found that male gender, height, obesity, hypertension, diabetes, family history of ESRD, and higher urine protein were associated with larger nonsclerosed glomeruli. Moreover, nonsclerotic glomerular volume did not change with age alone up to 75 years, although it decreased over 75. Male gender, diabetes, and lower GFR were also associated with larger globally-sclerosed glomeruli. These studies support a common pathway by which risk factors lead to increased glomerular volume of nonsclerosed glomeruli with proteinuria that can further lead to larger globally sclerosed glomeruli and lower GFR.