Immunoglobulin A nephropathy and disease complications

– register-based studies

av

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Akademisk avhandling

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Abstract

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Immunoglobulin A nephropathy (IgAN) is the commonest primary glomerular disease worldwide. A kidney biopsy is required for the diagnosis. IgA immune-complex depositions sets off a cascade leading to renal scarring, proteinuria and hypertension. Peaking in young adults, IgAN contributes significantly to the burden of chronic kidney disease, which in turn may lead to cardiovascular disease and death. As IgAN peaks in childbearing age, its effect on pregnancy outcomes is of interest.

All studies use the same cohort of 4126 patients with a biopsy diagnosis of IgAN, identified through the combination of computerized and manual search in biopsy reports from all Swedish kidney pathology labs. In study I, a random subset of 127 patients from the biopsy cohort were selected for diagnosis validation by patient chart review. IgAN was confirmed or likely in 121 cases (positive predictive value > 95 %). Mean age at diagnosis was 39.6 years, 74 % were male.

Study II compared mortality in IgAN patients and an individually matched reference population by survival analysis. IgAN was associated with an increase of 53 % in all-cause and 59 % in cardiovascular mortality, with an absolute excess death rate of in 310 person years. Mortality before end-stage renal disease was not significantly increased.

Study III used a similar design to examine incident fatal and non-fatal ischemic heart disease (IHD) in IgAN patients and the same reference populations. We found an 86 % increase in IHD hazard and an absolute excess IHD risk of one per 340 person-years.

In study IV, outcomes of 327 pregnancies in 208 women with IgAN were compared to reference pregnancies without IgAN, indicating increased odds of preterm birth < 37 weeks gestation, but not for very preterm birth < 34 weeks. Preeclampsia odds were quadrupled. Stillbirth and neonatal death were both uncommon and not increased in IgAN.

Keywords: immunoglobulin A nephropathy, nephrology, validation studies, register studies, cohort studies, mortality, ischemic heart disease, pregnancy, preterm birth.

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