



Cancer in IgA nephropathy; a letter to the editor on current findings



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Recent studies have found no conclusive evidence to suggest an increased risk of cancer in immunoglobulin A nephropathy.

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Several reports have confirmed a strong association between malignancy and some glomerulopathies. This relationship has been observed in numerous studies, which have uncovered interesting findings. For instance, previous research has shown that patients with Hodgkin's lymphoma are at increased risk of developing minimal change disease (1,2). Another study found a co-existence of membranous nephropathy with solid tumors. These findings provide insight into the complex relationship between cancer and kidney disease (3). Although there has been considerable research into the association between malignancy and various glomerulopathies, studies regarding the relationship between immunoglobulin A (IgA) nephropathy and malignant disease are relatively scarce. IgA nephropathy (IgAN) is a primary glomerulopathy that can affect people of all ages and genders which is characterized by the presence of hematuria, manifesting as either gross or microscopic, following a respiratory tract infection. To diagnose IgAN, a kidney biopsy is necessary to detect the presence of IgA deposits in the mesangial area of the glomeruli. However, the clinical expressions of IgAN can vary significantly from person to person. Some individuals may only experience hematuria and proteinuria, while others may progress to advanced kidney disease (4).

A recent study conducted by Rehnberg et al in Sweden investigated the association between IgAN and malignancy. The study included 3882 individuals with IgAN who underwent renal biopsy. The investigation was

a population-based cohort study with a median follow-up of 12.6 years. Of cases with IgAN, around 12.6% were diagnosed with malignancy. Interestingly, the study found that the increased risk of malignancy was only present in IgAN cases that developed end-stage kidney failure. They showed that non-end-stage kidney failure cases did not have an elevated overall risk of malignancy. Furthermore, the authors found no evidence of an increased risk of cancers before diagnosing IgAN (5).

Based on these findings, they concluded that IgAN is not a para-malignant condition (5,6). Previous studies have demonstrated an association between IgAN and several malignancies. These malignancies include renal cell carcinoma, Hodgkin's and non-Hodgkin lymphomas, and cancers of the pulmonary, esophageal, and laryngeal regions (5,7). It is important to note that secondary IgAN can be caused by various chronic diseases such as chronic hepatic disorders, inflammatory conditions, and certain infections. However, when malignant processes occur in conjunction with IgAN, it suggests a pathological relationship rather than a coincidental one. Despite this fact, the underlying causes of cancer-related IgAN remain unclear. IgAN is a common renal disease, so any potential association between it and cancer may be coincidental rather than causal (8). In a previous study, Mustonen et al proposed a possible link between mucosal involvement of solid tumors in the pulmonary tract, nasopharynx, and oral cavity and elevated plasma IgA concentration that triggers IgA deposition in the mesangial area (9). However,

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it is essential to note that most of these investigations have limitations of small sample sizes and lack of statistical significance.

While there is a plausible association between mucosal involvement of solid tumors and elevated plasma IgA concentration, the evidence for this link is still not definitive. This is largely due to the fact that, the studies investigating this association have relied on small or contained case presentations, which may not be generalizable to larger populations (10). According to a previous study, IgG depositions and the loss of glomerular foot processes can cause glomerular injury and proteinuria. This finding supports previous research indicating that immunoglobulin deposition is a major contributor to the pathogenesis of various glomerular diseases. This study also suggests that the extent of IgG deposition may be a useful prognostic indicator for the severity of glomerular injury and the risk of disease progression. Additionally, the loss of glomerular foot processes essential for maintaining the filtration barrier in the kidney can exacerbate proteinuria and lead to further renal damage (11). Experimental studies have revealed a potential link between minimal glomerular disorders and cancer immune response. This connection may be due to the elaboration of related antigens from the exterior of malignant cells, which can trigger the production of antibodies. Consequently, an antigen-antibody complex is produced. For instance, self-polymeric IgA1 in IgAN or a combined auto-antigen plus C3 is the most common type of antigen-antibody complex deposited in the mesangial area.

Overall, these study findings did not consistently suggest an increased risk of malignancy before diagnosing this glomerulopathy or suggest IgAN as a para-malignant condition (12-16).

Authors' contribution

Conceptualization: Maryam ALem, Leila ALem.

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Investigation: Leila ALem.

Project administration: Leila ALem.

Resources: Leila ALem.

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Conflicts of interest

The authors declare that they have no competing interests.

Ethical issues

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