



## LETTER TO THE EDITOR

## The elderly with renal disease undergoing kidney biopsy—an opportunity for vaccination?

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Glomerulonephritis is one of the leading causes of end-stage renal failure worldwide, and immunosuppression is often required to induce and sustain remission with the aim to reduce kidney injury [1]. However, immunosuppression use may be complicated by infections, a major cause of morbidity and mortality among individuals with glomerulonephritis and vasculitis, especially among older adults [2–4]. Hence, we read with interest that among 463 older adults aged  $\geq 70$  years with biopsy-proven renal disease diagnosed between 2006 and 2015 at the Imperial College Renal and Transplant Centre, chronic kidney disease was present in 54%, while 15% had nephrotic syndrome [5]. These are both well-established risk factors for infection [2, 6]. In addition, the most frequent diagnoses were pauci-immune crescentic glomerulonephritis (12%), acute interstitial nephritis (11%), membranous GN (7%) and minimal change disease (5%). Although post-biopsy treatment was not evaluated, it was highly likely that a significant proportion of the elderly cohort will have been treated with immunosuppressive therapy, further exacerbating the risk of infections among these vulnerable individuals.

We previously highlighted that patients undergoing kidney biopsies in our centre are increasingly older—the proportion of elderly (age  $\geq 65$  years) who underwent native kidney biopsy almost doubled in the period 2012–14 (18.6%) compared with the period 2009–11 (10.2%) in our centre [7]. These older adults may also be at greater risk of infection as our prospective native kidney biopsy database identified that among 398 consecutive biopsies performed between June 2016 and June 2018, the elderly (age  $\geq 65$  years,  $N = 93$ ) were more likely to be diabetic (57.1% versus 29.5%,  $P < 0.001$ ) with higher serum creatinine [median (interquartile range) 145 (101–238) versus 94 (63–187)  $\mu\text{mol/L}$ ;  $P < 0.001$ ] compared with younger patients. Immunosuppressive

therapy was less frequently administered to the elderly compared with younger patients (33.3% versus 50.7%;  $P = 0.006$ ); however, still a third of elderly individuals were treated with immunosuppression. Yet only 6 (6.5%) of the elderly group received influenza vaccination and 1 (1.1%) received pneumococcal vaccination before biopsy, while 19 (20.4%) and 16 (17.2%) had influenza and pneumococcal vaccinations, respectively, after kidney biopsy. Other cohorts treated with immunosuppressants reported similarly low vaccination rates despite international recommendations for vaccinations to reduce respiratory infections in high-risk patients [8–10].

The authors propose that perhaps kidney biopsy could be an opportunity to remind physicians to offer these beneficial vaccinations to the elderly with renal disease. Furthermore, as anti-platelet and anti-coagulation medications are usually withheld prior to kidney biopsy, it is also of practical advantage to safely administer intramuscular vaccines in the same setting as the kidney biopsy. Further studies will be required to evaluate barriers to vaccinating at-risk elderly with renal disease and improve vaccination rates among these individuals.

### AUTHORS' CONTRIBUTIONS

All authors contributed to the intellectual development of this article. The final version of the article was seen and approved by all the authors.

### CONFLICT OF INTEREST STATEMENT

None declared. The results presented in this article have not been published previously in whole or part, except in abstract format.

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