Editorial

Does Medical Insurance Matter in the Progression to Endstage Renal Disease Among Patients with Lupus Nephritis?

Lupus nephritis may affect up to 60% of patients with systemic lupus erythematosus (SLE) over time[1] and may lead to the development of endstage renal disease (ESRD) in 20% to 25% of those with lupus nephritis, even if properly treated[2-4]. Indeed, the incidence of ESRD due to lupus nephritis, like that due to all other causes, has increased over the last few decades[5], which may reflect the dissociation between clinical trial data and clinical practice data, the fact that even properly treated patients go on to develop ESRD[2,4,6], and/or the fact that these data cannot possibly reflect the therapeutic advances made over the last 10–15 years. Several demographic, clinical, and histopathological features have been associated with an increased risk of ESRD among these patients; they include male gender, Hispanic and African American ethnicity, hypertension, anemia, nephrotic syndrome, persistently elevated serum creatinine levels, diffuse proliferative histopathological forms, high chronicity index, treatment noncompliance, and diagnostic and therapeutic delays[2,6-12]. Even a delay between the onset of renal abnormalities and securing a renal biopsy has been shown to be a powerful predictor of ESRD in these patients[10]. These data taken together suggest that access to care may play a crucial role in the outcome of renal disease in patients with SLE.

In this issue of *The Journal*, Ward[13] examines the association between insurance status and age of onset of ESRD. This cross-sectional study of the 1996-2004 national population-based registry [the United States Renal Data System (USRDS)] of all incident cases of ESRD[14] due to lupus nephritis (n = 7971), shows that the uninsured (or those with limited insurance) evolve to ESRD faster, that is, they develop it at a younger age, than those with private insurance. Of importance, it was the medical insurance rather than the socioeconomic status (SES) that accounted for these findings, except for non-Hispanic White patients (n = 2590), in whom SES was also significant, albeit less importantly. Of course the assumption here is that the onset of lupus nephritis is unrelated to medical insurance status.

The data presented by Ward[13] corroborate the importance of insurance status in influencing the course and outcome of SLE, as has been shown by Karlson, *et al*[15] and others[11,16] over the years. Perhaps the finding most deserving of special comment relates to the fact that the uninsured and those with Medicaid performed similarly in these analyses. We know, however, that medical insurance status is not stable[15]. Thus, it is entirely possible that patients on Medicaid at the time they entered the registry were uninsured when lupus or renal involvement first ensued; like the uninsured patients, they may have had limited access to proper care and adequate treatment prior to the onset of ESRD. Indeed, in a relatively small study conducted by Barr, *et al* among African American, Hispanic, and White patients with focal and diffuse proliferative lupus nephritis, Medicare (but not Medicaid) was found to be an independent predictor of doubling of serum creatinine[16].

Of course, it is possible that factors otherwise not explored by Ward could have accounted for the differences observed in the occurrence of ESRD at a younger age among the uninsured. Although comorbid conditions (and SES) were adjusted for in the analyses, we know that genetic factors [HLA-DRB1*1503 and polymorphisms of FCGR3A (FCGR3A*GG)] may predispose patients with lupus nephritis to worsening proteinuria that often precedes the onset of ESRD[12,17,18], yet such data were not available in the registry. There is no reason to believe, however, that the distribution of these alleles would have been different among patients with and those without medical insurance.

This study has several strengths. The most important is the source of information, the USRDS, which includes all US patients with ESRD; thus, the data are representative of the entire nation; second, although an individual measure of SES was not available in the registry, the author used an area-based measure of SES, which has been found to be moderately to highly correlated with individual SES[19]. Third, the consistency of the results across all ethnic groups studied reinforces the validity of the findings.

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A few limitations are worth pointing out, however. First, details about the patients' diagnosis and course prior to the occurrence of ESRD are unavailable, including the actual diagnosis of lupus nephritis; nevertheless, it has been shown that the vast majority of patients with lupus in whom a renal biopsy is performed have lupus nephritis in contrast to other pathology to explain their renal abnormalities[20]. In this context, the assumption that ESRD, as per the registry, was indeed the result of lupus nephritis seems entirely appropriate. Second, knowing that medical insurance status is unstable, it would have been better to have this information at onset of disease or renal involvement rather than at the time ESRD ensued and patients entered the registry; however, patients are more likely to lose their private insurance as a function of changes in their work status, rather than to acquire it as they become ill[21]. This "misclassification" may have attenuated the differences found, but it does not abrogate them.

Despite these drawbacks, we think the study by Ward[13] conveys a very powerful message. Medical insurance status emerges as a risk factor associated with the occurrence of ESRD at a younger age. Limited or no medical insurance is strongly associated with inadequate medical care, resulting in diagnostic and treatment delays that in turn are strong predictors of the occurrence of ESRD. As Ward points out, the cost of insurance, and therefore of timely and adequate diagnosis and treatment, is far less than the high cost of renal replacement therapy (dialysis and transplantation). This is but one more reason to advocate for a much wider (universal) insurance coverage in the US than the one currently available[22]; less wealthy countries enjoy such a privilege. It is about time we do too, if the ravages of diseases such as lupus and other chronic diseases are to be significantly curtailed.

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