

In the event of suspected diagnosis the temporary relationship between the onset of symptoms and exposure to the drug must be sought. Treatment is based on withdrawal of nitrofurantoin. Although glucocorticoids are usually combined with it, it is believed that the symptoms may cease after discontinuation of the drug.<sup>1</sup>

Prognosis is good if there is an early suspected diagnosis and exposure to the drug is limited. A case of cutaneous vasculitis and positive anti-MPO renal ANCA associated with the use of nitrofurantoin<sup>2</sup> has been reported. In our case the ANCAs tested positive although without vasculitis-associated specificity. Given the patient's favourable evolution no hepatic or pulmonary biopsies were performed which could have highlighted vasculitis. We did not find any cases of arthralgias with simultaneous pulmonary and hepatic involvement with positive ANCA related to the use of nitrofurantoin. In this case the arthralgias were the predominant symptom and led to the detection of concomitant pulmonary and hepatic toxicity. We therefore believe that the involvement of joints may suggest systemic toxicity and its early detection may improve prognosis.

## References

1. Peall AF, Hodges A. Concomitant pulmonary and hepatic toxicity secondary to nitrofurantoin: a case report. *J Med Case Rep.* 2007;1:59.
2. Agarwal A, Agrawal A, Nathan K, Roy S. Rare adverse effect of a common drug: nitrofurantoin-induced ANCA-associated vasculitis. *BMJ Case Rep.* 2015;2015:2014–6.
3. Kiang TKL, Ford JA, Yoshida EM, Partovi N. Nitrofurantoin-associated lung and liver toxicity leading to liver transplantation in a middle-aged patient. *Can J Hosp Pharm.* 2011;64:262–70.
4. Reynolds TD, Thomas J. Nitrofurantoin related pulmonary disease: a clinical reminder. *BMJ Case Rep.* 2013;2013:2–4.
5. Madani Y, Mann B. Nitrofurantoin-induced lung disease and prophylaxis of urinary tract infections. *Prim Care Respir J.* 2012;21:337–41.
6. Appleyard S, Saraswati R, Gorard DA. Autoimmune hepatitis triggered by nitrofurantoin: a case series. *J Med Case Rep.* 2010;4:311.

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## Comment on “Clinical practice guidelines for the treatment of systemic lupus erythematosus by the Mexican College of Rheumatology”



### Comentario sobre “Guía de práctica clínica para el manejo del lupus eritematoso sistémico propuesta por el Colegio Mexicano de Reumatología”

Dear editor:

We read with high respect the recent publication of the Mexican Clinical Practice Guidelines for the management of systemic lupus erythematosus (SLE).<sup>1</sup> This is a much-needed reference for Mexico, a country with a high number of SLE patients. From the nephrologist perspective, lupus nephritis (LN) is also of great concern to Latin America given the high percentage of LN observed in recent renal biopsy registries from the region.<sup>2</sup> It is known that LN affects 40–60% of patients with SLE and 10–20% will progress to end-stage renal disease within 10 years of diagnosis. These patients will receive some sort of renal replacement therapy (RRT): peritoneal dialysis (PD), hemodialysis (HD) or renal transplantation.<sup>3</sup>

In the LN management section, these new recommendations suggest “hemodialysis (HD) as the first option of renal replacement treatment in patients with chronic kidney disease (CKD) due to LN, given that peritoneal dialysis (PD) is associated with a higher number of complications and mortality due to immunosuppression (quality of evidence: moderate, strong recommendation)”.

Studies in the nephrology community comparing patient survival on hemodialysis versus peritoneal dialysis in patients with end-stage renal disease from several etiologies have yielded conflicting results. Some underlying reasons encompass the differences in the included populations (e.g. incident vs. prevalent, diabetic vs. non-diabetic), differences in the methodology used (e.g. intention to treat vs. received dialysis modality) and importantly, the unavailability of complete information of important

confounders (presence or severity of comorbidities, residual kidney function, administered dialysis dose, among others). Researchers have tried to overcome these difficulties with the use of multivariate modeling, multilevel modeling or the use of propensity scores. However, confounding remains a threat to validity of most studies.

The recommendation in these new guidelines is based on the study by Weng et al. from Taiwan.<sup>4</sup> This is a small observational report that found a higher number of infections and death among 24 SLE patients undergoing PD as compared to 12 SLE patients on HD. The study has multiple methodological limitations, the most notable being the absence of correction for the baseline differences with any of the aforementioned statistical techniques. Some other important limitations are mentioned in the manuscript's discussion, for example, the health system in Taiwan did not cover erythropoietin stimulating agents (ESAs) for PD patients as it did for the HD group. Several other studies have been performed to define the best dialytic modality for SLE patients, some of them with similar methodological limitations (Table 1).

The largest study to date that compared PD vs. HD in SLE patients was performed by Contreras et al.<sup>5</sup> with data from the US Renal Data System. In this study, 1352 SLE patients with PD were matched with a propensity score approach to 1352 SLE patients with HD. There was a similar 3-year mortality between both modalities (21.4% vs. 22.5%), with similar cardiovascular (10.5% vs. 9.5%) and infection-related mortality (3.0% vs. 4.4%). These results were not modified in a sensitivity analysis in the unmatched population by a Cox-regression analysis that included all the appropriate predictors.

Therefore, we believe there is not enough evidence to support the preference for HD over PD in SLE patients. Renal replacement therapy selection in most CKD patients requires a case-by-case evaluation by the healthcare team keeping in mind the patient preferences. It is clear that an effort should be made to transplant these patients as soon as possible due to the lower mortality achieved with renal transplantation.

**Table 1**  
Studies comparing hemodialysis (HD) and peritoneal dialysis (PD) modalities in systemic lupus erythematosus patients on end-stage renal disease.

Study	Country	Follow-up (months)	Patients		Infectious Events		Survival		Adjustment for baseline differences
			HD	PD	HD	PD	HD (%)	PD (%)	
Nossent <sup>6</sup> 1990	Holland	60	32	23	Not reported		92	80	No
Goo <sup>7</sup> 2004	Korea	53 ± 29	21	11	Not reported		No difference		No
Weng <sup>4</sup> 2009	Taiwan	37 (PD)/127 (HD)	12	24	0.10 episodes/pt/year	0.36 episodes/pt/year	92	75	No
Kang <sup>8</sup> 2011	Korea	60 ± 36	28	14	0.64 episodes/pt/year	0.36 episodes/pt/year	79	93	Yes
Chang <sup>9</sup> 2013	Taiwan	Unknown	813	260	Infections leading to death 9.1%	Infections leading to death 6.9%	79	87	Yes
Contreras <sup>5</sup> 2014	USA	36	1352	1352	Not reported		79	78	Yes
Levy <sup>10</sup> 2015	France	23	308	60	Not reported		83	82	Yes

HD, hemodialysis; PD, peritoneal dialysis; episodes/pt/year, infectious episodes per patient per year (current recommendation is <0.6 dialysis related episodes/patient/year for peritoneal dialysis).

## References

- Xibillé-Friedmann D, Pérez-Rodríguez M, Carrillo-Vázquez S, et al. Guía de práctica clínica para el manejo del lupus eritematoso sistémico propuesta por el Colegio Mexicano de Reumatología *Reumatol Clínica*. 2018. <http://dx.doi.org/10.1016/j.reuma.2018.03.011>. Epub ahead of print.
- O'Shaughnessy MM, Hogan SL, Thompson BD, et al. Glomerular disease frequencies by race, sex and region: results from the International Kidney Biopsy Survey. *Nephrol Dial Transplant*. 2018;33:661–9.
- Tektonidou MG, Dasgupta A, Ward MM. Risk of end-stage renal disease in patients with lupus nephritis, 1971–2015: a systematic review and bayesian meta-analysis. *Arthritis Rheumatol*. 2016;68:1432–41.
- Weng C-H, Hsu CW, Yu CC, et al. Peritoneal dialysis and hemodialysis in systemic lupus erythematosus patients: comparison of clinical outcomes. *Kidney Blood Press Res*. 2009;32:451–6.
- Contreras G, Pagan J, Chokshi R, et al. Comparison of mortality of ESRD patients with lupus by initial dialysis modality. *Clin J Am Soc Nephrol*. 2014;9:1949–56.
- Nossent HC, Swaak TJ, Berden JH. Systemic lupus erythematosus: analysis of disease activity in 55 patients with end-stage renal failure treated with hemodialysis or continuous ambulatory peritoneal dialysis Dutch Working Party on SLE. *Am J Med*. 1990;89:169–74.
- Goo YS, Park HC, Choi HY, et al. The evolution of lupus activity among patients with end-stage renal disease secondary to lupus nephritis. *Yonsei Med J*. 2004;45:199–206.
- Kang SH, Chung BH, Choi SR, et al. Comparison of clinical outcomes by different renal replacement therapy in patients with end-stage renal disease secondary to lupus nephritis. *Korean J Intern Med*. 2011;26:60–7.
- Chang YS, Liu CJ, Wu TH, et al. Survival analysis in systemic lupus erythematosus patients on maintenance dialysis: a nationwide population-based study in Taiwan. *Rheumatology*. 2013;52:166–72.
- Levy B, Couchoud C, Rougier JP, Jourde-Chiche N, Daugas E. Outcome of patients with systemic lupus erythematosus on chronic dialysis: an observational study of incident patients of the French National Registry 2002–2012. *Lupus*. 2015;24:1111–21.

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## Reply



### Respuesta

Dear Editors,

Regarding the comments made by Mejía-Vilet of the recommendations in the guidelines<sup>1</sup> with respect to the substitution of renal function in patients who develop end-stage renal disease due to lupus nephritis we coincide, and this is stated in the document, that the best option is renal transplantation. The evidence shows that this intervention is superior to hemodialysis or peritoneal dialysis,<sup>2</sup> providing the patient with a better opportunity for survival in the median and long term, as well as reducing comorbidities and increasing life expectancy.

Regarding the comparison between hemodialysis and peritoneal dialysis, as stated in this letter, published evidence has been contradictory and depends on the population, comorbidities,<sup>3</sup> resources and quality or conditions of the procedures. Although we do recognize the evidence provided by Contreras et al.<sup>4</sup> in the US population that did not show differences between both treatment

modalities, the recommendation to prefer hemodialysis instead of peritoneal dialysis when possible was based, as stated in the document, on an albeit small study, but one that coincides with many of the characteristics in our clinical environment. We agree that the best option should in any case be individualized based on patient characteristics and resource availability.

### Conflict of interests

The authors declare that they have no conflict of interest or have received sponsorship for the preparation of this letter.

### References

- Xibillé-Friedmann D, Pérez-Rodríguez M, Carrillo-Vázquez S, et al. Guía de práctica clínica para el manejo del lupus eritematoso sistémico propuesta por el Colegio Mexicano de Reumatología. *Reumatol Clín*. 2018. <http://dx.doi.org/10.1016/j.reuma.2018.03.011>. Epub ahead of print 4 May.
- Tektonidou MG, Dasgupta A, Ward MM. Risk of end-stage renal disease in patients with lupus nephritis, 1971–2015. A systematic review and Bayesian meta-analysis. *Arthritis Rheumatol*. 2016;68:1432–41.
- Contreras G, Pagan J, Chokshi R, et al. Comparison of mortality of ESRD patients with lupus by initial dialysis modality. *Clin J Am Soc Nephrol*. 2014;9:1949–56.
- Weng C-H, Hsu CW, Yu CC, et al. Peritoneal dialysis and hemodialysis in systemic lupus erythematosus patients: comparison of clinical outcomes. *Kidney Blood Press Res*. 2009;32:451–6.