Letters to the Editors

Effect of mycophenolate mofetil on active hepatitis C virus in a woman with lupus nephritis after two years of follow-up

Sirs,

The treatment of systemic lupus erythematosus (SLE) in hepatitis C virus (HCV)-infected patients has become a clinical challenge due to the potential adverse effect of immunosuppressive agents on the HCV infection. We report the case of a newly pregnant 29-year-old woman with an HCV infection (1b genotype) that debuted with SLE after delivery. Anti-HCV infection treatment was dismissed because it is associated with the development or worsening of autoimmune diseases. Three years later, she was diagnosed with a Class IV lupus nephritis (LN) and treatment with prednisone, hydroxychloroquine (HCQ), enalapril, and MMF 1.5 g/day was started. At that moment, transaminases and an abdominal sonogram were normal. The viral load (HCV-RNA) was 318,000 copies/ml and liver stiffness measured by means of a transient elastometry (FibroScan®) was 7.2 kPa (F1-F2 fibrosis stage). Twenty-four months later, the patient received prednisone 7.5 mg/day, HCQ, MMF 2 g/day. No deterioration of renal or liver function and no progression of liver fibrosis were observed during this period, with the HCV-RNA viral load being similar to that observed before starting MMF.

To our knowledge, this is case with the longest follow-up of a SLE patient with chronic active HCV infection receiving MMF treatment reported in medical literature and it suggests that treatment with MMF in SLE patients with LN and HCV co-infection may be safe, at least after two years of follow-up. It is known that the concomitant HCV infection with LN is associated with worse renal outcome and reduced patient survival (1). MMF has been suggested that might have a key role in the immunosuppressive therapy of patients with coexisting autoimmune diseases and chronic HCV infection (2). It was shown to be a potent *in vitro* inhibitor of HCV replication (3), in a similar way to ribavirin. However, this antiviral effect *in vivo* is controversial and no evident reduction in HCV-RNA viral load has been observed, perhaps because its immunosuppressive properties may overwhelm its antiviral effect *in vivo*. Thus, the effect of long-term use of MMF as maintenance treatment in liver transplant recipients infected with HCV on the virus has been found to be neutral (4), similar to that observed in our patient after 2 years of treatment. In addition, MMF has been associated with a favourable effect on hepatic fibrosis progression in HCV liver transplant recipients (5). In our patient we found a slight decrease in liver fibrosis although its clinical relevance is uncertain.

Table I.

	At onset of treatment with MMF	After 12 months of treatment	After 24 months of treatment
Aspartate aminotransferase, U/l	26	22	18
Alanine aminotransferase, U/l	22	17	14
Anti-dsDNA, IU/l	1250	281	317
C3, mg/dl	59	64	70
C4, mg/dl	8	10	14
Creatinine, mg/dl	0.79	0.63	0.68
Albumin, g/dl	4.0	3.9	3.9
Prothrombin time, seg	11.3	11.2	11.3
Proteinuria 24 h, g	1.4	0.5	0.6
HCV-RNA, copies/ml	318,000	492,000	396,000
Abdominal sonogram	Normal	Normal	Normal
Liver stiffness (FibroScan®), KPa	7.2	7.0	6.2
Cumulative dose of prednisone, g	*	5.2	7.9 (5.2 + 2.7)

*The patient had received 4.1g of prednisone from the moment when diagnosis of SLE was made to the moment when therapy with MMF was started.

There is little evidence in the literature on the effect of MMF in SLE patients co-infected with HCV. Medina *et al*. (6) reported the use of MMF to treat proliferative LN in five patients with SLE associated with HCV infection during a mean of 8 months; four of them achieved a reduction in proteinuria above 50% without liver functional test deterioration and viral load increase. Caponnetto *et al*. (7) reported a case of myasthenia gravis associated with incomplete SLE and HCV infection, which was well controlled with piridostigmine, prednisone and MMF (2g/day), without a significant increase in transaminases and HCV-RNA count after 3 months of follow-up. Finally, Abbott *et al*. (8) reported a case of a patient co-infected with HIV, HBV and HCV that subsequently developed SLE and LN. He was intermittently treated with MMF but the impact on HCV infection and liver function was difficult to interpret because multiple factors were implicated.

In conclusion, although only one case with two years of follow-up is reported and a publication bias may exist, we think MMF may be effective and safe in these patients and further well-designed long-term trials are warranted to confirm this issue.

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