patient, similar to the cutaneous primary forms. An Bras Dermatol. 2016;91:29–31.
3. Husain S, Wagener MM, Singh N. *Cryptococcus neoformans* infection in organ transplant recipients: variables influencing clinical characteristics and outcome. Emerg Infect Dis. 2001;7:375–81.
4. La Hoz RM, Pappas PG. Cryptococcal infections: changing epidemiology and implications for therapy. Drugs. 2013;73:495–504.
5. Hwang SY, Yu SJ, Lee JH, Kim JS, Yoon JW, Kim YJ, et al. Spontaneous fungal peritonitis: a severe complication in patients with advanced liver cirrhosis. Eur J Clin Microbiol Infect Dis. 2014;33:259–64.
6. Saif MW, Raj M. Cryptococcal peritonitis complicating hepatic failure: case report and review of the literature. J Appl Res. 2006;6:43–50.
7. Im H, Chae JD, Yoo M, Lee SY, Song EJ, Sung SA, et al. First case of continuous ambulatory peritoneal dialysis-related peritonitis caused by *Cryptococcus arboriformis*. Ann Lab Med. 2014;34:328–31.
8. Albert-Braun S, Venema F, Bausch J, Hunfeld KP, Schäfer V. *Cryptococcus neoformans* peritonitis in a patient with alcoholic cirrhosis: case report and review of the literature. Infection. 2005;33:282–8.
9. Tarumoto N, Sakai J, Kodana M, Kawamura T, Ohno H, Maesaki S. Identification of disseminated cryptococcosis using MALDI-TOF MS and clinical evaluation. Med Mycol J. 2016;57:E41–6.
10. Perfect JR, Dismukes WE, Dromer F, Goldman DL, Graybill JR, Hamill RJ, et al. Clinical practice guidelines for the management of cryptococcal disease: 2010 update by the infectious diseases society of America. Clin Infect Dis. 2010;50:291–322.

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Sofosbuvir plus daclatasvir as an alternative for patients on haemodialysis with genotype 2 hepatitis C virus infection

Sofosbuvir más daclatasvir como alternativa en pacientes con infección por el virus de la hepatitis C genotipo 2 en hemodiálisis

Dear Editor,

Treatment of hemodialyzed patients with HCV infection is challenging and data on safety and effectiveness of the new direct-acting antivirals (DAAs) are scarce and concentrated in genotypes 1 and 4.[1,2] For patients with genotype-2-HCV (gen2-HCV) infection and estimated glomerular filtration rate (eGFR) < 30 mL/min, current guidelines recommend pegylated interferon-α (PEG-IFN) and dose-adjusted ribavirin when treatment has been elected before kidney transplantation.[2] Preferred regimens for gen2-HCV-infection without renal impairment are sofosbuvir/velpatasvir (SOF/VEL), daclatasvir (DCV) + sofosbuvir (SOF) and SOF + ribavirin.[3,4] Although SOF is restricted to patients with eGFR ≥ 30 mL/min, real world data in patients with lower eGFR show a good effectiveness rate with increased side effects.[5] SOF toxicity may be driven by accumulation of GS-331007, a metabolite eliminated renally and partially extracted by hemodialysis. Recently, growing evidence of the safety and effectiveness of SOF in hemodialyzed patients has arisen[1,6] with 100% sustained viral response at 12 weeks (SVR12).

We hereby describe the case of a 50-year-old Moroccan immigrant with chronic kidney disease stage 5 on hemodialysis. On September 2015, he had an acute gen2-HCV-infection. Twelve months later, his HCV viral load was 2,708,805 IU/mL and elastography was 9.1 kPa. IL28B genotype was CT. A 12-weeks course of daily SOF400 mg plus DCV60 mg was started. On hemodialysis days, patient was instructed to take SOF and DCV after the hemodialysis session. SOF/VEL was not available at that time. During HCV treatment he continued taking his chronic medications that included gemfibrozil, omeprazole, nifedipine, calcifediol, sevelamer, cinacalcet, folic acid, calcium acetate/magnesium carbonate and sodium bicarbonate; carvedilol was replaced by doxazosin to avoid bradycardia. The patient was closely monitored with weekly clinical visits, weekly blood cell count, biochemistry (including liver function tests) and electrocardiogram. Therapeutic drug monitoring was not available. He had no side effects besides a grade 2 self-limited episode of vomits 3 days after starting medication. He successfully achieved SVR12.

Best option for gen2-HCV patients in hemodialysis is unknown and DAAs' data come from case reports or small case series. Desnoyer et al. included only one gen2-HCV patient successfully treated with SOF + ribavirin[6]; other studies report no gen2-HCV cases or no extractable data.[5] In our opinion, until more treatment options become available, SOF + DCV could be a good option if treatment is elected before kidney transplantation. This combination may be better tolerated and more effective than PEG-IFN + ribavirin. It is mandatory to monitor them very closely for hepatobiliary and cardiovascular side effects.

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References

1. Fabrizi F, Martin P, Messa P. New treatment for hepatitis C in chronic kidney disease, dialysis, and transplant. Kidney Int. 2016;89:988–94.
2. AASLD-IDSA. Unique patient populations: patients with renal impairment. Recommendations for testing, managing, and treating hepatitis C. Available from: http://www.hcvguidelines.org/full-report/unique-patient-populations-patients-renal-impairment [cited 17.12.16].
3. Falade-Nwulia O, Suarez-Cuervo C, Nelson DR, Fried MW, Segal JB, Sulkowski MS. Oral direct-acting agent therapy for hepatitis C virus infection. Ann Intern Med. 2017;166:637–48.
4. Guías AEEH/SEIMC de manejo de la Hepatitis C; 2017. p. 1–80. Available from: http://aeeh.es/wp-content/uploads/2017/06/consenso.pdf [cited 26.07.17].
5. Saxena V, Koraishy FM, Sise ME, Lim JK, Schmidt M, Chung RT, et al. Safety and efficacy of sofosbuvir-containing regimens in hepatitis C-infected patients with impaired renal function. Liver Int. 2016;36:807–16.
6. Desnoyer A, Pospai D, Lê MP, Gervais A, Heurgué-Berlot A, Laradi A, et al. Pharmacokinetics, safety and efficacy of a full dose sofosbuvir-based regimen given daily in hemodialysis patients with chronic hepatitis C. J Hepatol. 2016;65:40–7.

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