that a triple (not double) regimen was used, for 3 weeks. Sawinski et al.[5] report a patient, black race, who achieved negative viral load after 29 days of treatment of ledispavir and sofosbuvir. This is, to date, the shortest response ever reported with these two agents. Meissner et al.[8] report a case of successful treatment with sofosbuvir and ribavirin for 27 days. More experience is needed on the treatment of chronic hepatitis C in kidney transplant patients. The opportunity of using shorter treatment times, in an effective and more tolerable way, will be a great driver for investment and research in this area.

Conflicts of interest

None.

REFERENCES

1. Lin MV, Sise ME, Pavlakis M, Amundsen BM, Chute D, Rutherford AE, et al. Efficacy and safety of direct acting antivirals in kidney transplant recipients with chronic hepatitis C virus infection. PLOS ONE. 2016;11, e0158431.
2. Jakobsen JC, Nielsen EE, Feinberg J, Katakam KK, Fobian K, Hauser G, et al. Direct acting antivirals for chronic hepatitis C. Cochrane Database Syst Rev. 2017;9:CD012143.
3. Smith Palmer J, Cerri K, Valentine W. Achieving sustained virological response in hepatitis C: a systematic review of the clinical, economic and quality of life benefits. BMC Infect Dis. 2015;15:19.
4. Fernández I, Muñoz-Gómez R, Pascasio JM, Baliellas C, Polanco N, Esforzado N, et al. Efficacy and tolerability of interferon-free antiviral therapy in kidney transplant recipients with chronic hepatitis C. J Hepatol. 2017;66:718–23.
5. Sawinski D, Kaur N, Ajeti A, et al. Successful treatment of hepatitis C in renal transplant recipients with direct-acting antiviral agents. Am J Transplant. 2016;16:1588–95.
6. Kamar N, Marion O, Rostaing L, Cointault O, Ribes D, Lavayssière L, et al. Efficacy and safety of sofosbuvir-based antiviral therapy to treat hepatitis C virus infection after kidney transplantation. Am J Transplant. 2016;16:1474–9.
7. Sawinski D, Kaur N, Ajeti A, trofe-Clark J, Lim M, Bleicher M, et al. Efficacy and safety of 3-week response-guided triple direct acting antiviral therapy for chronic hepatitis C infection: a phase 2, open-label, proof-of-concept study. Lancet Gastroenterol Hepatol. 2016;1:97–104.
8. Meissner EG, Nelson A, Marti M, Masur H, Osinusi A, Kottilil SAT Sustained virologic response for chronic hepatitis C infection after 27 days of treatment with sofosbuvir and ribavirin. Open Forum Infect Dis. 2014;1:013.

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Transplantation of hepatitis C infected kidneys into uninfected recipients. Why not?☆

Trasplantar receptores hepatitis C negativos con riñones de donantes seropositivos. ¿Por qué no?

The enemy to beat is the hepatitis C virus (HCV), a RNA virus of 30–38 nm in size with icosahedral coat. It is a Hepacivirus of the Flaviviridae family, which has 7 genotypes.[1] Its transmission is parenteral, therefore its transmission through transplanted organs has been well documented and it causes acute and chronic hepatitis.[2] Given this risk, transplant from donors with antibodies against HCV has been totally contraindicated in noninfected recipients. It is estimated that more than 500 high quality kidney grafts are discarded annually in the USA for this reason.[3] In 2016 we did not transplanted 15 kidneys for this reason.[4]. A number of organs could be transplanted to recipients infected with HCV.[5] The efficacy of direct-acting antivirals eliminated HCV patients from the waiting lists[6] making possible the use these organs, in a society clearly need them.[4]

At present we have tools to change this panorama that have been clearly stated in the Hepatitis C Consensus Conference of the American Society of Transplantion.[7]

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Table 1 – Action protocol.

Donor to include:
Carriers of HCV antibodies
No drug addiction or institutionalization
Rapid assessment of viral load
Absent viral load: acting group 1
Viral load present: action group 2
Recipients to include:
Individualization
Personal interview
Signing of an informed consent
Action to follow:
Action 1: considered non-infective
Standard renal TX
Biweekly viral load quantification/3 months
Positive
Glecaprevir 300 mg
Pibrentasvir 120 mg/12 weeks
Negative: no treatment
Action 2: considered infective
Pre-tx and post-tx
or Glecaprevir 300 mg
or Pibrentasvir 120 mg/12 weeks

The risk of HCV transmission must be defined; there is a clear distinction between donor carrying antibodies, not necessarily infectious, and the patient with viraemia that is infective. To carry out this separation, we use the Xpert® HCV Viral Load test with the Cepheid GeneXpert® system (distributed by Werfen), available in our hospital, that quantifies the viral load in 1 h which allows the quick identification of the infective donor.

The efficacy, safety and tolerability of direct antivirals make feasible the transplantation of viraemic donors in seronegative recipients. Even more now with the current commercialization of the compounds glecaprevir and pibrentasvir effective against all genotypes, so there is no need to identify the genotype of the donor and are not contraindicated in renal failure, which allows its use in the peritransplant period.[8]

Having these tools and the successful experiences by Durand et al.[9] and Goldberg et al.[10] this year, we requested an ethical evaluation to implement an action protocol (Table 1) to the bioethics committee of our hospital, which gave its approval on July 18, 2017 and stressed the importance of explaining to the recipient the procedure for the subsequent signing of an informed consent.

In the application of the protocol of action (Table 1), we transplanted 2 seronegative male HCV recipients of 45 and 58 years with grafts from a 40-year-old female donor and a 57-year-old male both seropositive, but with negative viral load, for what we apply the action 1. The patients today are carriers of a functioning graft and the viral load in them has been repeatedly negative.

Our initial experience, endorsed by other teams, should encourage the extensive, albeit meticulous, use of this type of donors and lead us to the conclusion that HCV, the enemy to beat, is very likely beaten.

REFERENCES

1. Gastaminza P, Dryden KA, Boyd B, Wood MR, Law M, Yeager M, et al. Ultrastructural and biophysical characterization of hepatitis C virus particles produced in cell culture. J Virol. 2010;84:10999–1009 [accessed 1 Dec 2017] Available in: http://jvi.asm.org/cgi/doi/10.1128/JVI. 00526-10.
2. Pereira BJG, Milford EL, Kirkman RL, Levey AS. Transmission of hepatitis C virus by organ transplantation. N Engl J Med. 1991;325:454–60 [accessed 1 Dec 2017] Available in: http://www.ncbi.nlm.nih.gov/pubmed/1649402.
3. Reese PP, Abt PL, Blumberg EA, Goldberg DS. Transplanting hepatitis C-positive kidneys. N Engl J Med. 2015;373:303–5.
4. Organización Nacional de Trasplantes. Dossier de actividad de trasplante renal España 2016. 2016;1:1–51.
5. Morales JM, Campistol JM, Castellano G, Andres A, Colina F, Fuertes A, et al. Transplantation of kidneys from donors with hepatitis C antibody into recipients with pre-transplantation anti-HCV. Kidney Int. 1995;47:236–40.
6. Desnoyer A, Pospai D, Le MP, Gervais A, Heurgue-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.
7. Levitsky J, Formica RN, Bloom RD, Charlton M, Curry M, Friedewald J, et al. The American Society of Transplantation Consensus Conference on the use of hepatitis C viremic donors in solid organ transplantation. Am J Transplant. 2017;17:2790–802.
8. Forns X, Lee S, Valdes J, Lens S, Ghalib R, Aguilar H, et al. EXPEDITION-I: efficacy and safety of glecaprevir/pibrentasvir in adults with chronic hepatitis C virus genotype 1, 2, 4, 5 or 6 infection and compensated cirrhosis. J Hepatol. 2017;66:S3–4. Available in: https://doi.org/10.1016/S0168-8278(17)30269-6.
9. Durand C, Brown D, Wesson R, Bhair N, Naqvi F, Ostrander D, et al. EXPANDER-1: exploring renal transplants using hepatitis-C infected donors for HCV-negative recipients. Am J Transplant. 2017;17:207.
10. Goldberg DS, Abt PL, Blumberg EA, van Deerlin VM, Levine M, Reddy KR, et al. Trial of transplantation of HCV-infected kidneys into uninfected recipients. N Engl J Med. 2017;376:2394–5.

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