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**Changing landscape of hepatitis C virus-positive donors**

Kling CE *et al.* Changing landscape of HCV positive donors

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**Abstract**

With the introduction of the new highly effective antiviral therapies, there has been a dramatic increase in the use of the hepatitis C virus (HCV)-positive livers in HCV-positive recipients. In the majority of studies, HCV positivity was defined as a donor testing HCV Ab positive. In 2015, all Organ Procurement Organizations were mandated to perform and report HCV Nucleic Acid Amplification Testing (NAT) results on all deceased and living donors. Studies are not yet available on how organs are being utilized based on NAT status and whether NAT status affects recipient outcomes. Further studies are needed to maximize the use of these organs.

**Key words:** Hepatitis C virus aviremic; Heptitis C organ utilization; Hepatitis C positive recipients; Liver transplantation

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**Core tip:** For many years hepatitis C (HCV) positive livers have been used with caution in carefully selected mostly HCV-positive patients. With the introduction of the new highly effective antiviral therapies discard rate of HCV-positive livers, although improved, continues to be high. On August 10, 2015, the United Network for Organ Sharing mandated all Organ Procurement Organizations to perform and report HCV Nucleic Acid Amplification Testing (NAT) results on all deceased and living donors. We believe further research in the outcome of viremic and aviremic HCV livers is needed so that the utilization of these organs can be maximized in HCV NAT + and potentially HCV NAT - recipients.

Kling CE, Limaye AP, Sibulesky L. Changing landscape of hepatitis C virus-positive donors. *World J Hepatol* 2017; In press

**To the Editor**

In the face of liver graft shortage, increasing numbers of extended criteria or marginal grafts are being used. Such grafts include those from donors after circulatory death, older donors, livers with steatosis, and livers from donors infected with hepatitis C. For many years, hepatitis C (HCV) positive livers have been used with caution in carefully selected mostly HCV positive patients.

In the recent study Bowring et al. noted that with the introduction of the new highly effective antiviral therapies, there has been a dramatic increase, from 6.9% to 16.9%, in the use of the HCV-positive livers in HCV-positive recipients. The authors demonstrated that the allograft survival in HCV-positive recipients was similar for patients who received an HCV-positive liver and those who received an HCV-negative liver. Despite a better use of these organs, the reluctance to utilize these livers continues, demonstrated by the 1.7 times higher discard rate when compared to non-infected liver allografts[1].

In the majority of studies, HCV positivity is defined as a donor testing HCV Ab positive. However, there is variability among HCV Ab positive donors - some donors are actively viremic and hence are HCV Ab positive and RNA positive by Nucleic Acid Amplification Testing (NAT), while others are Ab positive but aviremic and NAT negative. Approximately 10%-25% of people will spontaneously clear the virus without treatment[2,3] and thus would be Ab positive NAT negative. Other donors have cleared the virus with treatment. Sustained virologic response, defined as aviremia 24 wk after completion of antiviral therapy for chronic HCV infection, would also result in Ab positive NAT negative serostatus, and relapse and thus transmission of infection is expected to be minimal.

On August 10, 2015, the United Network for Organ Sharing mandated all Organ Procurement Organizations perform and report HCV NAT results on all deceased and living donors[4]. As a result, transplant centers must specify whether candidates who are listed as accepting livers from HCV Ab positive donors are willing to accept organs from NAT positive and/or NAT negative donors. Studies are not yet available on how organs are being utilized based on NAT status and whether NAT status affects recipient outcomes, but given the difference in viremic status between the two populations, there likely is a difference.

As a result of these changes in donor testing and recipient listing, and in the era of new DAA therapies, we believe further research in the outcome of viremic and aviremic HCV livers is needed so that the utilization of these organs can be maximized in HCV NAT + and potentially HCV NAT- recipients.

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