

## INVITED COMMENTARY

**Is 40 the new 30?**

Kymberly D. Watt

Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA

**Correspondence**

Kymberly D. Watt MD, Division of  
Gastroenterology and Hepatology, Mayo  
Clinic and Foundation CH-10, 200 First St.  
S.W. Rochester, MN 55905, USA.  
Tel.: 507 266 1586;  
fax: 507 266 1856;  
e-mail: watt.kymberly@mayo.edu

**Conflicts of interest**

None.

Received: 30 October 2014

Accepted: 6 November 2014

doi:10.1111/tri.12487

If 'orange is the new black' and the dead are now walking, can we say that 40 is the new 30? Generally speaking, when referring to age, all of us having celebrated some anniversary of our 40th birthday would agree. But, when it comes to body mass index (BMI), the debate and indecision continues. In this journal, Singhal *et al.* [5] provide another view supporting a change in the doctrines of yesteryear. In this study, BMI > 40 was not associated with worse in hospital or short-medium term outcomes, nor were there substantial differences in resource utilization. Is this enough to put the controversy to rest? Can we file this debate with our VHS recorders and cassette tapes? The times, they are changing.

Most studies within the last decade focusing on the topic of outcomes after liver transplant have not found BMI to be an *independent* risk associated with lower survival rates [1]. However, studies have suggested higher morbidity in the early post-transplant setting and longer length of stay in patients that are morbidly obese [2,3]. This study by Singhal *et al.*, supports these findings, but provides some granularity into why the postoperative complications may be more frequent and length of stay may be longer. What they show is that morbidly obese patients start off sicker. They had higher MELD scores and were more frequently ICU bound, with this ICU bound cohort accounting for much

of the differences noted. The idea that being sicker going into transplant manifests in a tougher, longer post-transplant hospital stay is not a revelation. We know this, and we do not deny a life saving liver transplant to patients in this state, because of a projected longer hospital stay. Despite the cards stacked against them, morbidly obese (BMI > 40 and even BMI > 45) transplant recipients survival was no different than nonobese or less obese counterparts. This is *clinically significant*.

Despite longer hospital stays, readmission rates were similar. Although hard to believe in the setting of a longer stay, the actual hospital costs appear to be equivalent in this study. Most studies suggesting higher resource utilization after liver transplant in the obese population base these comments on concepts of longer length of stay and higher complication rates after transplant but not actual dollar values. Singhal *et al.*, performed a linkage analysis using a resource manager to provide these dollar values showing no difference in costs and proving that the overall care for these individuals post-transplant is *not fiscally significant*.

This study takes it another step further, showing the morbidly obese recipients were more often discharged to a rehabilitation or nursing facility. Although this can be

construed as a slightly negative outcome, looking from a different angle, over 77% of morbidly obese recipients were discharged home (81% if not ICU bound at transplant). More understanding of the longer term outcome of the 23% discharged to a facility (notably alive and able to rehab) is needed to fully interpret this outcome.

What this study should provoke is the question of why morbidly obese patients are more likely to be ICU bound before transplant? Data exist suggesting that obese patients are less likely to get on the list and wait longer for transplant when on the list [4], and we can speculate why. Is this a bias, or is this just simply a patient population with mid-range MELD scores that decompensates more severely when triggered? We need more studies addressing these questions.

What we learn from this study is that the morbidly obese patient that made their way through the hoops to get to liver transplantation want to live, will fight to live and do as well as their counterparts. We need better data on the selection of the morbidly obese patient for transplant. Who is an acceptable candidate and who is not? At least as it stands, the population selected is robust.

In summary, restricting access to transplant based purely on BMI is obsolete thinking. 40 may be the new 30. Understanding the nuances of the morbidly obese transplant can-

didate selection and wait-list outcomes is the next frontier. Maybe there is an App for that.

## Funding

None.

## References

1. Saab S, Lalezari D, Pruthi P, Alper T, Tong MJ. The impact of obesity on patient survival in liver transplant recipients: a meta-analysis. *Liver Int* 2013; epub doi: 10.1111/liv.12431.
2. Dare AJ, Plank LD, Phillips AR, *et al.* Additive effect of pre-transplant obesity, diabetes, and cardiovascular risk factors on outcomes after liver transplantation. *Liver Transpl* 2014; **20**: 281.
3. Hakeem AR, Cockbain AJ, Raza SS, *et al.* Increased morbidity in overweight and obese liver transplant recipients: a single-center experience of 1325 patients from the United Kingdom. *Liver Transpl* 2013; **19**: 551.
4. Segev DL, Thompson RE, Locke JE, *et al.* Prolonged waiting times for liver transplantation in obese patients. *Ann Surg* 2008; **248**: 863.
5. Singhal A, *et al.* Impact of recipient morbid obesity on outcomes after liver transplantation. *Transpl Int* 2014; doi:10.1111/tri.12483.