



IS FRAILITY ASSOCIATED WITH PRE-, PERI- AND POST-LIVER TRANSPLANT OUTCOMES?

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Introduction

- Pre-transplant frailty has recently been recognised as an important prognostic factor for liver transplant survival^{1,2} and is potentially modifiable.
- The impact of frailty status on liver transplant outcomes such as unplanned admissions pre- and up to 30 days post-transplant, transplant complications and length of stay (LOS) are not well established.

Research objectives

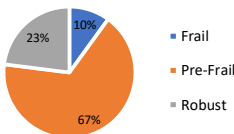
To assess the impact of pre-transplant frailty on unplanned admissions while awaiting transplant; LOS and complications during the liver transplant admission; and unplanned re-admissions up to 30-days post-transplant.

Methods

- Liver Frailty Index (LFI)³ was assessed in the initial dietetics assessment for QLTS candidates (March 2018 - May 2021). Frailty status was classified as frail, pre-frail or robust.
- Chi-square tests were used to compare a) unplanned admissions (yes/no), and b) post-transplant complications (yes/no) between frailty status.
- Kruskal-Wallis tests were used to compare LOS (days) between categories of frailty status.

Results

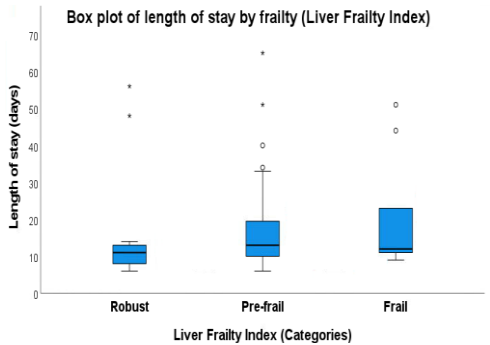
- Ninety-six recipients (76% male), median age 58 (IQR 50-62) years and mean dry BMI 27.4±6.2kg/m² were included.



Frailty status as per LFI in n=96 transplant recipients

- The proportion of patients who had an unplanned admission (total n=31, 32%) was higher in those who were frail (40%) or pre-frail (38%) compared to robust (13%), but this difference was not significant (p=.102).
- The rate of complications (total n=42, 44%) was similar between those who were frail (50%), pre-frail (45%) and robust (36%), p=.701.
- The rate of re-admission 30-days post-transplant (total n=30, 31%) was higher in those who were frail (50%) compared to pre-frail (31%) or robust (23%), but again, this difference was not significant (p=.304).

- Median [IQR] LOS during transplant admission was significantly longer for frail (12[11-46] days) or pre-frail (13[10-20] days) compared to robust (11[8-13] days), p=.037 as seen in the plot below.



One outlier from the frail group with a LOS of 201 days was removed

Discussion

- Despite no apparent impact of frailty on unplanned admissions prior to transplant or up to 30-days post, the total hospital length of stay during patients' transplant admission was significantly higher for frail or pre-frail candidates.
- This highlights the importance of identifying those at risk of frailty and proactively treating those who are frail and pre-frail when considering pre-habilitation interventions to reverse or minimise the progression of frailty prior to liver transplantation.

Limitations

This preliminary analysis was limited by a small study population including only patients who progressed to transplant. Potential confounding factors, such as body mass index, age or type 2 diabetes have not been accounted for statistically due to small sample. Recruitment continues to increase the power of this study.

Conclusion

Early pre transplant intervention for both frail and pre-frail candidates may reduce hospital length of stay during liver transplant admissions.

Selected references

- Sinclair, M., et al., World Journal of Gastroenterology 2017; 2. Lai, J.C., et al., American Journal of Transplantation, 2019; 3. Lai, J.C., et al., Hepatology, 2017.

