

Introduction

- Nonalcoholic steatohepatitis (NASH) has now become the leading cause of liver transplants
- NASH patients are quite different than previous alcohol related cirrhosis prompting the need for further research of causes and potential therapeutic interventions
- Purpose of this study was to assess the post liver transplant cardiovascular and infection complications in NASH patients to help identify early interventions that could potentially mitigate these serious post-transplant complications.

Methods

- Single center retrospective study
- Total 124 patients who received liver transplants from January 2017-September 2022
- 67 NASH vs 57 non-NASH patients who underwent propensity matching analysis matched the disease cohorts on: MELD, age, and gender at time of transplant.
- Demographic, clinical, and transplant-related outcomes (cardiovascular event, infection, mortality) were collected at one year.
- Groups were compared using the Student's t-test, Chi Square Test of Independence, Fisher's exact test, Wilcoxon Rank-sum test, and Logistic/Cox regression.

Results

- 124 liver transplant patients (67 NASH vs. 57 non-NASH) were analyzed.
- NASH patients had significantly higher mean BMI at time of transplant (31.99 vs 28.40, p=0.0126) and at one-year post-transplant (32.95 vs. 30.10, p = 0.0126).
- Mean number of hospitalizations in one year was higher in the control cohort (1.23 vs 3.8, p = .0001) while mortality rate at one, two, and three months and 1, 3, and 5 years was not significantly different between the two cohorts.
- Similar cardiovascular outcomes were observed at one year between the NASH vs. non-NASH groups as can be seen in the MI rate (0% vs. 0%), and CVA rate (1.49% vs 3.64%, p = .588).
- Surprisingly, there were no differences in post-transplant infection rates (58.21% vs. 61.82%, p=0.686) and the types of infection were similar between the two groups.

TABLE 1		NASH	Non-NASH
BMI	At time of transplant	31.99	28.37
	1 year post transplant	32.95	30.09
Cardiovascular Complications (after 1 year)	Cardiovascular event	7.46%	14.81%
	MI	0.00%	0.00%
	CVA	1.49%	3.64

Table 1: Comparison of NASH and non-NASH BMI and Cardiovascular complications

TABLE 2	NASH	Non-NASH
Infection Events	58.21%	61.82%
Total hospitalizations (mean)	1.23	3.8
Mortality at 1 month	2.99%	1.82%
Mortality at 2 months	0.00%	1.85%
Mortality at 3 months	0.00%	3.77%
Mortality at 1 year	2.99%	3.92%

Table 2: Comparison of NASH and non-NASH infection rate, number of hospitalizations and mortality rates at 1,2,3 and 12 months

Conclusion

- NASH patients have higher BMI at times of transplant
- Hospitalization rate lower in NASH group compared to control
- No difference in mortality nor cardiovascular/infection complications
- Study is limited by retrospective nature of analysis and limited post-transplant follow-up period limit the study.
- A thorough cardiovascular assessment and careful patient selection in patients with metabolic syndrome could explain these findings.
- Larger patient samples with a longer follow-up period will be included in future publication to further investigate the cardiovascular complications and other post-transplant complications of NASH patients.

Disclosures

No additional funding was provided for this study and authors have no conflicts to declare.