

INCREASED PSYCHOSOCIAL RISK FACTORS IN PEDIATRIC LIVER TRANSPLANT PATIENTS TRANSPLANTED FOR FULMINANT LIVER FAILURE

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INTRODUCTION

- Acute (ALF) and chronic liver failure (CLF) are two distinct conditions both in terms of etiology and outcomes in pediatric liver transplant (PLT) recipients.
- In South Africa (S.A), Hepatitis A virus (HAV) and other viral infections account for 60% of causes of ALF and biliary atresia (BA) for about 50% of CLF in PLT recipients.
- Psychosocial determinants impact the outcomes of pediatric patients post liver transplant and can affect survival and quality of life.
- The aim of this study was to do a comparative analysis of outcomes (patient and graft survival) between ALF and CLF PLT recipients and to assess associated factors impacting outcomes.

METHODS

- Retrospective record review of all pediatric patients who received liver transplantation between 1 January 2013 till 31 December 2023 attending liver transplant clinic at Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), a tertiary academic public/government sector hospital located in Johannesburg, South Africa.
- Permission to conduct the study was obtained from University of Witwatersrand Human Research Ethics Committee M231167 M240404-C-0001

Results

- Records of 104 PLT recipients were analyzed with
- Median age at transplant of 34 months (19.5 – 84.15).
- There were 26/104(25%) patients who were transplanted for ALF and 78/104(75%) for CLF.
- Biliary atresia was the underlying cause for: 50/104 (48%) of children transplanted and hepatitis A virus accounted for acute liver failure in 10/104 (9.6%) of patients.
- No significant difference in outcomes between ALF and CLF patients.
- There was a significant difference in psychosocial risk factors between both groups {14/26 (54%) vs 14/78(17.9%) P =0.001} with ALF patients having a significant increase in psychosocial risk factors which was also independently found to be a risk factor on multivariate analysis.

Table 1. Comparison between acute and chronic liver failure patients transplanted

	Chronic liver failure (78) N%	Acute liver failure (26) N %	P value
Sex =Male	33 (42.3)	13(50.0)	0.648
Type of Transplant			0.417
Reduced	1(1.3)	0 (0)	
Related living donor	41(52.6)	18(69.2)	
Split deceased donor	27(34.6)	7(26.9)	
Whole	9(11.5)	1(3.8)	
Race			0.608
African	64 (82.1)	19 (73.1)	
Mixed race	8 (10.3)	5 (19.2)	
Indian	1 (1.3)	0 (0)	
Caucasian	5 (6.4)	2 (7.7)	
Outcome (survival)	54 (69.2)	16 (61.5)	0.629
Medical complications	64 (82.1)	25 (96.2)	0.147
Surgical complications	53 (67.9)	15 (57.7)	0.475
Biliary complications	29 (37.2)	9 (34.6)	1.000
Psychosocial factors	14 (17.9)	14 (53.8)	0.001
Chronic rejection	9 (11.5)	3 (11.5)	1.000
Plasma rich rejection	6 (7.7)	3 (12.0)	0.797
Acute rejection episodes (mean)	0.88 (1.28)	0.92 (1.23)	0.894

DISCUSSION

- Significant increase in psychosocial risk factors among pediatric liver transplant recipients with ALF compared to CLF
- Highlights the unique challenges faced by ALF patients and their families, likely due to the sudden onset and rapid progression of the disease.
- Urgency of ALF cases may lead to inadequate time for psychological preparation and adjustment, potentially contributing to increased psychosocial risks.
- These factors did not significantly impact patient and graft survival in our cohort but may influence long-term quality of life and adherence to post-transplant care.
- Results underscore the need for enhanced psychosocial support and interventions specifically tailored for ALF patients and their families through the transplant process

CONCLUSION

- Psychosocial risk factors are significantly associated with ALF PLT recipients compared to CLF in PLT recipients in a transplant centre in S.A.
- Despite this having no impact on patient and graft survival, psychosocial pretransplant criteria require further evaluation to better assess the ALF group of patients.

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