

# HIV and Solid Organ Transplantation: A Single Centre Retrospective Audit

## Authors:

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## Background:

The incidence of end stage organ disease in people living with HIV (PLHIV) is increasing, as patients live longer due to effective antiretroviral therapy. Consequently, the number of patients with HIV benefiting from solid organ transplant (SOT) is rising internationally, though experience in Australia remains limited. Here, we aimed to retrospectively review our experience and outcomes for solid organ transplantation in patients living with HIV infection.

## Methods:

A retrospective cohort study of PLHIV undergoing SOT over a twenty-year period, and managed peri-transplant at the Victorian HIV Service was performed. Adult patients  $\geq 18$  years old were eligible and identified from the Victorian HIV Service database. Those acquiring HIV post-SOT were excluded. Descriptive statistics were used to describe baseline demographics, comorbidities, and HIV parameters at time of transplantation, and outcomes following SOT.

## Results:

Nine virologically-suppressed PLHIV underwent SOT from HIV-negative donors; 5 kidneys, 2 livers, 2 bilateral sequential lung transplants. All patients were male, with a median age of 57.3 years (IQR 54.3-60.1), and CD4 count of 485 (IQR 342-835) at transplantation. The median duration since HIV diagnosis was 22.3 years (IQR 11.42-32.3), and comorbidities were common (Table 1). After a median follow up of 3.9 years (IQR 2.7-7.6), 8 patients were alive, 7 had functioning grafts, though 5 experienced biopsy-confirmed or clinically-suspected organ rejection. Infections were common, with 7 (77.8%) receiving antimicrobial treatment in hospital within two years post SOT, including two ADIs. Two patients required modification to their antiretroviral therapy due to drug-drug interactions, prior to transplant, while 5 (55.6%) had modifications post SOT. No patients experienced virologic failure. Patients frequently reported improved quality of life and return to function.

## Conclusion:

PLHIV with end-organ disease should be considered for SOT, and have promising clinical and functional outcomes. However, multidisciplinary planning is essential to navigate drug-drug interactions, infections and the ongoing management of comorbidities in this group.

## Disclosure of Interest Statement:

The Authors have nothing to disclose.

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This study was approved by the Alfred hospital ethics committee, project number 281/20

Table 1. Outcomes of PLHIV undergoing Solid Organ Transplantation

		N(%)
Rejection		
	Any rejection	5 (55.6)
	Early (<90 days)	3 (33.3)
	Late (>90 days)	2 (22.2)
	Graft survival	7 (77.8)
	Overall survival	8 (88.9)
Infections		
	Infectious complication	7 (77.8)
	Time to first infection, days (median, range)	201 (13-732)
HIV infection		
	CD4 count 12 months post-transplant (median, IQR)	270 (252-538)
	Viral blip (n,%)	4 (44.4)
	Low level viraemia (n,%)	2 (22.2)
Comorbidities		
	Cardiovascular disease	5 (55.6)
	Osteoporosis/osteopaenia	8 (88.9)
	Chronic kidney disease	7 (77.8)
	Diabetes mellitus	4 (44.4)
	Weight change (kg)	2.3 (0.5-5.6)
	%Weight change	3.03 (0.6-7.8)

HIV = Human Immunodeficiency virus, IQR = interquartile range, kg = kilogram