

BACKGROUND

HIV positive (HIV+) patients have a higher waitlist mortality and decreased access to transplant.

The currently available antiretroviral therapy (ART) has ensured that HIV is no longer a contraindication to organ transplantation and has become the standard of care for patient with end stage kidney and liver disease, with safety and efficacy outcomes consistent with that of HIV negative individuals.

While there is ample data pertaining to kidney and liver transplantation in HIV+ patients, a paucity of data regarding thoracic and pancreas transplantation in HIV+ patients.

OBJECTIVES

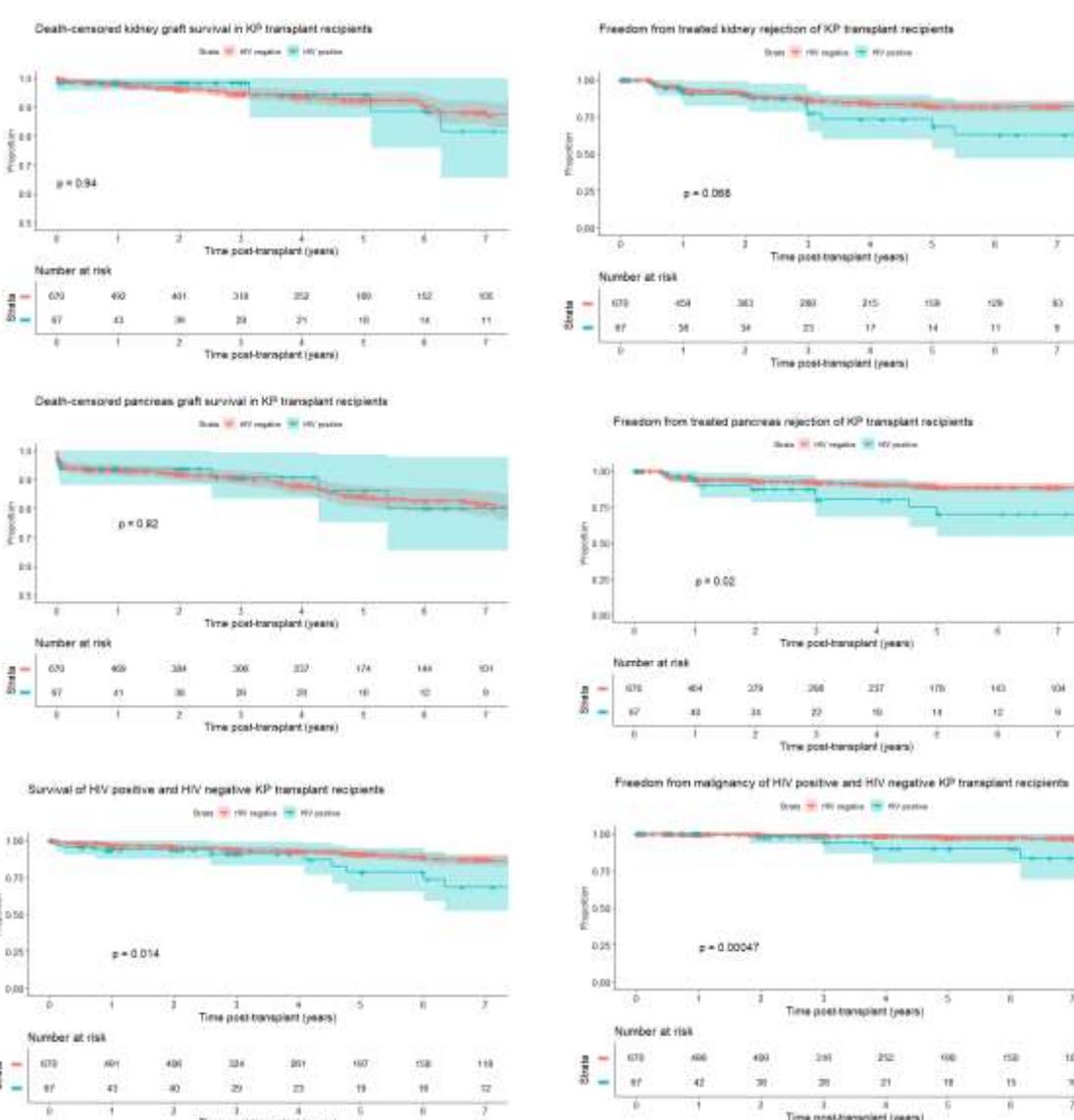
To assess the outcomes of pancreas and Kidney-pancreas transplantation in HIV+ patients using a national database.

METHODS

We used the SRTR database to identify all adult HIV positive kidney-pancreas (KP) and pancreas transplants between 2009 to 2022 with follow-up.

Cases were matched 1:10 to controls for recipient's age, gender, race, transplant indication, pancreas donor risk index and year of transplant

RESULTS



Univariate hazard ratios for HIV positive Kidney-pancreas transplants

Outcome	HR	95% CI	p-value
Death-censored kidney graft loss	0.96	0.35, 2.68	>0.9
Death-censored pancreas graft loss	0.92	0.42, 1.90	0.8
Treated kidney rejection	1.75	0.95, 3.22	0.072
Treated pancreas rejection	2.20	1.11, 4.34	0.023
Death	2.13	1.15, 3.95	0.016
Malignancy	4.65	1.80, 12.0	0.001

Univariate hazard ratios for HIV positive pancreas transplants

Outcome	HR	95% CI	p-value
Death-censored pancreas graft loss	0.73	0.09, 5.65	0.8
Treated pancreas rejection	1.25	0.16, 10.0	0.8
Death	0.00	0.00, 0.0	>0.9
Malignancy	N/A		

670 HIV negative and 67 HIV positive transplants were analyzed.

Rate of rejection was higher in HIV + KP transplant recipients. Long term mortality (>5 years post transplant) also was noted to be higher in HIV + KP transplants which may correlate to the risk of malignancy seen in HIV + patients

70 HIV negative and 7 HIV positive pancreas only transplants were analyzed. Given the smaller number of patients, no clear trends identified.

For immunosuppression, HIV+ KP and pancreas transplant patients had frequent use of IL-2 antagonist and less LDT use respectively

DONOR AND RECIPIENT CHARACTERISTICS OF HIV POSITIVE KIDNEY-PANCREAS TRANSPLANTS

Characteristic	HIV negative N=670	HIV positive N=67	P value
Pancreatic donor index	0.96 (0.89-1.18)	0.97 (0.83-1.19)	0.9
Kidney Donor Profile Index (KDPI)	13 (8-27)	10 (5-20)	>0.9
Median Donor BMI	23.7	23.7	0.8
Donor gender	30% F, 70% M	25% F, 75% M	0.5
Donor race			0.8
Black	15% (21%)	14 (21%)	
White	40% (60%)	36 (54%)	
Hispanic	13% (17%)	13 (19%)	
Median Donor age (months)	280	263	0.2
Median Recipient age at transplant (years)	41	40	0.8
Recipient Race			0.8
Black	30% (44%)	31 (46%)	
White	27% (38%)	27 (40%)	
Hispanic	33 (47%)	30 (43%)	
Recipient CMV +	368 (55%)	57 (85%)	<0.001
Recipient HCV +	18 (2.7%)	4 (6%)	0.2
Recipient duct anatomy			0.8
Cystostomy	41 (6.1%)	4 (6.1%)	
Enteric without Roux-en-Y	507 (76%)	51 (76%)	
Enteric with Roux-en-Y	90 (13.4%)	10 (15%)	
Duct rejection	1 (0.1%)	0 (0%)	
Unknown	41 (6.1%)	2 (3%)	
Recipient receipt of lymphocyte depleting therapy	582 (87%)	51 (80%)	0.088
Recipient receipt of IL-2 antagonist	50 (7.5%)	11 (17%)	0.008
Recipient of steroid induction	430 (65%)	62 (92%)	0.8
Recipient post operative anastomotic leak	13 (2%)	0	0.6
Recipient post operative abscess	30 (4%)	1 (1.5%)	0.7
Recipient post operative pancreatitis	15 (2.2%)	3 (4.5%)	0.3

DONOR AND RECIPIENT CHARACTERISTICS OF HIV POSITIVE PANCREAS TRANSPLANTS

Characteristic	HIV negative N=70	HIV positive N=7	P value
Pancreatic donor index	1.00	0.91	0.8
Median Donor BMI	23.1	24.1	0.4
Donor gender	27% F, 73% M	43% F, 57% M	0.4
Donor race			0.7
Black	16 (23%)	1 (14%)	
White	35 (50%)	6 (86%)	
Hispanic	19 (27%)	0	
Median Donor age in months	272	261	0.8
Recipient age at transplant in years	41	33	0.4
Recipient race			0.8
Black	43 (61%)	4 (57%)	
White	21 (30%)	2 (29%)	
Hispanic	6 (9%)	1 (14%)	
Recipient CMV +	46 (66%)	4 (57%)	0.4
Recipient HCV +	3 (4.3%)	0	>0.9
Recipient duct anatomy			>0.9
Cystostomy	3 (2.1%)	0	
Duct rejection immediate	1 (1.4%)	0	
Enteric without Roux-en-Y	51 (73%)	6 (86%)	
Enteric with Roux-en-Y	19 (27%)	1 (14%)	
Unknown	0	0	
Recipient receipt of lymphocyte depleting therapy	39 (56%)	3 (43%)	0.011
Recipient receipt of IL-2 antagonist	3 (3%)	3 (43%)	0.009
Recipient of steroid induction	64 (92%)	5 (71%)	0.067
Recipient post operative anastomotic leak	3 (4.3%)	0	>0.9
Recipient post operative abscess	5 (7.1%)	0	>0.9
Recipient post operative pancreatitis	3 (3.9%)	0	>0.9

CONCLUSION

HIV+ patients have acceptable outcomes after pancreas and KP transplantation, although future research with a larger sample size is needed to ascertain long term survival (> 5 years) in KP transplantation.

REFERENCES
 1. Bhatnagar SA, Rogers CC. Solid organ transplantation in the HIV-infected patient. *Qualitas from the American Society of Transplantation Medical Chinese Community of Practice. Clin Transplant* 2013;28(1):1-10.
 2. Hwang SA, Davies CM. Solid Organ Transplantation in HIV-Infected Recipients. *History, Progress, and Frontiers. Curr HIV/AIDS Rep.* Jan 2016;13(1):20-30. doi: 10.1007/s12019-015-0240-0.
 3. Hwang SA, Davies CM, Hwang SA, et al. Long-term outcomes of HIV-infected patients receiving solid organ transplantation. *Am J Transplant.* Aug 2012;12(8):2020-2030. doi: 10.1111/j.1530-2401.2012.02845.x.
 4. Gross PL, Sagar M, Gagnon DJ, et al. Post-transplant outcomes: immunosuppression in HIV-positive recipients with hepatitis. *Am J Transplant.* Apr 2012;12(4):1024-45. doi: 10.1111/j.1530-2401.2012.02845.x.