

1093. Infectious Complications after Pancreatic Islet Transplantation

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Session: P-49. Infections in Immunocompromised Individuals

Background. Despite the significant advancement in islet transplantation over the past three decades, our understanding of infectious complications post islet transplant remains limited.

Methods. This is a single center retrospective review of Islet transplant recipients at the University of Alberta between February 2006 and December 2015. All infectious episodes events occurring after transplant were categorized as opportunistic and non-opportunistic.

Results. We analyzed 142 patients receiving a median of 2 islet transplants per patient, with 18 patients receiving 1 transplant (13%), 77 (54%) 2, 33 (23%) 3, 13 (9%) 4 and 1(1%) 5 transplants. Median age at first transplant was 50 years and 85 (47%) were male. Lymphocyte depleting agent with thymoglobulin or alemtuzumab was used for induction in 94% in first and 53% in second transplant. CMV serostatus was CMV D+/R- 61 (43%), CMVD+/R+ 52 (37%), CMVD-/R+ 16 (11%) and CMVD-/R- 13 (9%). CMV infection occurred in 21 patients (15%) [CMVD+/R- 6 (9.8%) and CMVR+ 15 (22.1%), p=0.06]. Other opportunistic infections included VZV 7 (4.9%), Nocardia 3(2.1%), and Pneumocystis jirovecii pneumonia 1. Non-opportunistic infections included skin and soft tissue infection 14 (9.9%), urinary tract infection 11 (7.7%), pneumonia 7 (4.9%) clostridium difficile infection (CDI) 4 (2.8%), and non-CDI gastroenteritis 5 (3.5%) (Table 1).

Table 1: Infectious Complication post islet transplant

Syndrome	Pathogen	Frequency
Skin and Soft tissue infection	MSSA	4
	Unknown	10
	Nocardia	1
Urinary tract infection	E.coli	6
	P.mirabilis	1
	E.faecalis	3
	S.gallolyticus	1
Upper respiratory tract infection	Enterovirus-rhinovirus	3
	Influenza A/B	3
	Human metapneumovirus	3
	Coronavirus	1
	Parainfluenza	1
		2
Pneumonia	Nocardia	2
	MSSA	1
	Influenza	2
	RSV	2
	Pneumocystis	1
	No pathogen	2
		2
Bacteremia	Salmonella	2
	E.coli	1
	E.cloacae	1
Gastroenteritis	Clostridium	4
	Norovirus	2
	Rotavirus	1
	D.fragilis	1
	Salmonella	1
Herpes Zoster	VZV	6
	VZV encephalitis	1
Others		

Table 1: Infectious complications post islet transplantation

Abbreviation: MSSA methicillin sensitive staphylococcus aureus, VZV varicella -zoster virus

Others include herpes simplex virus, latent tuberculosis, urethritis, ocular disease, septic arthritis /osteomyelitis, and empyema

Conclusion. Although the rate of infections after islet cell transplant is less frequent than other types of transplants, opportunistic infections, especially CMV, are not uncommon and should be considered in this setting.

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1094. Infective Endocarditis During Index Hospitalization for Solid Organ Transplantation in the United States

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Session: P-49. Infections in Immunocompromised Individuals

Background. The prevalence and impact of infective endocarditis (IE) on organ transplant recipients is unknown. We used a large cohort of transplant recipients to assess the impact of IE on outcomes during index transplant hospitalization.

Methods. We used data from the 2013-2017 Nationwide Readmissions Database (NRD). Hospitalizations associated with solid organ transplantation procedures (heart, liver, kidney, lung, intestines, pancreas) were included. Outcomes included 60-day rates of mortality, ECMO deployment, thromboembolic events, length of stay, and inpatient costs. For data obtained October 2015 and later, rates of graft rejection and graft failure were also measured. Regression models, weighted to account for the NRD sample design, were used to model associations between outcomes and transplant procedure, adjusting for patient age, sex, facility characteristics, comorbid conditions, and organs transplanted.

Results. A total of 75,069 hospitalizations for organ transplantation, corresponding to a national estimate of 160,368, were included. A diagnosis of IE was associated with 416 (weighted estimate = 898). IE cases were less likely to be female (22.2% vs. 37.9%, p< 0.001), and had higher rates of underlying pulmonary disease. The most common organ transplanted in the hospitalization during which IE was diagnosed (allowing for multiple organs) was heart (84.5%) followed by kidney (8.9%) and liver (7.9%), (p< 0.001). IE was associated with higher mortality [adjusted relative risk (aRR): 1.70, 95% confidence interval (CI) (1.09, 2.66)], prolonged ventilation (aRR 1.32 [1.06, 1.65], 4.6 additional inpatient days (CI: 1.5, 7.6) and \$28,300 more inpatient cost (CI: \$12,000, \$44,700) (Table).

60-Day Outcomes, Stratified by IE During Index Transplant Hospitalization

Table: 60-Day Outcomes, Stratified by IE During Index Transplant Hospitalization

	No N=74,653 (N) [Weighted N = 159,470]	Yes N=416 (N) [Weighted N = 898]	Unadjusted Relative Risk (95% CI)	Adjusted Relative Risk (95% CI)
Mortality	3,544 (2.2)	76 (8.5)	3.81 (2.56, 5.67)	1.70 (1.09, 2.66)
Prolonged Mechanical Ventilation	18,671 (11.7)	255 (28.3)		
ECMO Deployment	3,110 (2.0)	55 (6.2)	2.42 (2.02, 2.90)	1.32 (1.06, 1.65)
Thromboembolic Event	11,799 (7.4)	176 (19.6)	3.16 (2.14, 4.66)	0.79 (0.51, 1.24)
Graft failure	5,815 (7.8)	40 (8.4)	2.65 (2.05, 3.42)	1.23 (0.92, 1.64)
Graft rejection	6,332 (8.5)	73 (15.3)	1.07 (0.64, 1.78)	1.37 (0.84, 2.22)
			Unadjusted incremental Difference** (95% CI)	Adjusted incremental Difference (95% CI)
Length of Stay (Days)	18.5 (27.7)	52.5 (56.7)	34.0 (27.0, 41.1)	4.6 (1.5, 7.6)
Total Inpatient Cost (\$1000s)	110.1 (129.0)	271.7 (265.0)	161.6 (122.8, 200.4)	28.3 (12.0, 44.7)

* N < 10; result cannot be displayed due to data use restrictions

** Incremental Difference is expressed as average among endocarditis-related admissions minus average among non-endocarditis-related admissions

Conclusion. IE complicating hospitalization for organ transplantation is associated with higher rates of morbidity and mortality. IE during index transplant hospitalization occurs most frequently in heart transplant recipients. Understanding the high rate of IE in heart recipients in the early post-transplant period requires further study.

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1095. Investigation of Risk Factors Associated with Serious Bacterial, Viral and Invasive Fungal Infections in Hematologic Patients on Ibrutinib

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