Conclusion: We observed a large decrease in glycopeptide use after NGS results which suggests physicians' comfort in withdrawing MRSA coverage. In addition, anti-mycobacterial coverage increased corresponding to early mycobacterial detection with NGS. This study highlights the importance of clinical judgement in the age of rapid diagnostics.

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681. Induction Immunosuppression Selection in People Living with HIV Undergoing Deceased Donor Kidney Transplantation: U.S. National Trends from 2000 to 2018

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Session: P-27. Diagnostics: Virology

Background: Human Immunodeficiency Virus (HIV) outcomes have significantly improved at the expense of other age-related diseases including chronic kidney disease. Early reports of people living with HIV (PLWH) undergoing deceased-donor kidney transplantation (DDKT) showed poor outcomes, but these have notably improved after introduction of antiretrovirals. Despite years of experience, the optimal induction immunosuppression (IIS) in PLWH remains subject of debate. Large-scale studies describing the current ISS practices in PLWH undergoing DDKT are lacking. Here, we describe the U.S. national trends of IIS used in PLWH undergoing DDKT from 2000 to 2018 using the United Network of Organ Sharing (UNOS) database.

Methods: We analyzed the UNOS database to determine the selection of IIS in PLWH undergoing first-time DDKT between 1/1/2000 and 12/31/2018. Cases with unknown HIV status at the time of transplant were excluded. Age, sex and demographics were analyzed. The regimen used for IIS was compared based on HIV serostatus and the change in induction regimen was trended over time.

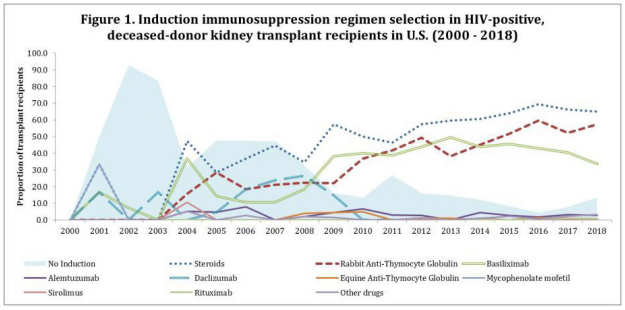
Results: A total of 139,650 cases underwent DDKT during the study period. Among these, 1,384 were identified as HIV-positive. PLWH were significantly younger than HIV-negative (49±10 years vs. 51.6 ± 15.3 years; p< 0.001) (Table 1). A greater proportion of men was seen in the PLWH group compared to HIV-negative persons (76.2% vs. 60.4%; p< 0.0001). In the HIV-negative group, 12.1% undergoing DDKT did not receive IIS compared to 16.4% in PLWH (p< 0.0001). Medications that have significantly increased in use with years in PLWH included rabbit anti-thymocyte globulin (rATG), steroids, and basiliximab (3.54, 3.25, 2.28, respectively; p< 0.001). On our trend analysis (Figure 1), the percentage of PLWH receiving any IIS is increasing by 4.04% each year (p< 0.001).

Table 1

Table 1. Characteristics of HIV-positive and HIV-negative deceased-donor kidney transplant recipients in the U.S. from 2000 to 2018.

	All Cases		HIV-positive		HIV-negative		p-value
	n=	139650	n=	1387	n=	138263	
Mean age (SD)	51.6	(15.3)	49.7	(10.0)	51.6	(15.3)	**< 0.001**
Male	84507	(60.5)	1057	(76.2)	83450	(60.4)	**< 0.001**
Female	55143	(39.5)	330	(23.8)	54813	(39.6)	
Age group (%)							
0-10 yo	2246	(1.6)	1	(0.1)	2245	(1.6)	**< 0.001**
11-20 yo	4825	(3.5)	10	(0.7)	4815	(3.5)	
21-30 yo	6936	(5.0)	32	(2.3)	6904	(5.0)	
31-40 yo	15182	(10.9)	195	(14.1)	14987	(10.8)	
41-50 yo	26813	(19.2)	485	(35.0)	26328	(19.0)	
51-60 yo	38890	(27.8)	467	(33.7)	38423	(27.8)	
61-70 yo	35918	(25.7)	180	(13.0)	35738	(25.8)	
71-80 yo	8581	(6.1)	17	(1.2)	8564	(6.2)	
81 and older	259	(0.2)	0	(0.0)	259	(0.2)	
Induction at time of transplant	122720	(87.9)	1159	(83.6)	121561	(87.9)	**< 0.001**
No induction	16930	(12.1)	228	(16.4)	16702	(12.1)	
Number of induction drugs	1.6		1.5		1.6		0.008
Steroids	90936	(65.1)	808	(58.3)	90128	(65.2)	**<0.001**
Rabbit anti-thymocyte globulin	67337	(48.2)	624	(45.0)	66713	(48.3)	**<0.001**
Basiliximab	28991	(20.8)	522	(37.6)	28469	(20.6)	**<0.001**
Alemtuzumab	16712	(12.0)	41	(3.0)	16671	(12.1)	**<0.001**
Daclizumab	5653	(4.0)	42	(3.0)	5611	(4.1)	0.067
Equine anti-thymocyte globulin	1731	(1.2)	15	(1.1)	1716	(1.2)	0.468
Mycophenolate mofetil	1205	(0.9)	2	(0.1)	1203	(0.9)	**<0.001**
Sirolimus	1222	(0.9)	3	(0.2)	1219	(0.9)	**0.003**
Rituximab	935	(0.7)	6	(0.4)	929	(0.7)	0.518
Other drugs	2720	(1.9)	19	(1.4)	2701	(2.0)	0.118

Figure 1



Conclusion: Our study suggests that IIS is an increasing practice in PLWH undergoing DDKT, predominantly using rATG, steroids, and basiliximab. Understanding the current practices might lead to further studies to determine the long-term outcomes after different induction regimens in PLWH.

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682. Is There a Role for the Early Use of Tocilizumab and Interleukin-6 Levels in the Management of SARS-CoV-2 Patients with Early Respiratory Failure?

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Session: P-27. Diagnostics: Virology

Background: The severity of respiratory failure in SARS-CoV-2 infection appears to be related to cytokine release syndrome (CRS), resulting in mechanical ventilation (MV). In this observational study, we investigated tocilizumab's role in the treatment of SARS-CoV-2 and the use of interleukin-6 (IL-6) levels in the management of these patients.

Methods: Patients with positive SARS-CoV-2 PCR were prospectively observed from February 1, 2020 to May 31, 2020. Data on demographics, medical history, and clinical outcomes were collected. Tocilizumab (TCZ) 4 mg/kg/day q12h was given for 24 hours, followed by methylprednisolone 60 mg q8h for 72 hours to patients with oxygen requirement of 3 L and above. IL-6, C-reactive protein (CRP), ferritin, lactate dehydrogenase (LDH), and D-dimers were monitored on days: 0, 3, and 6 following the initiation of therapy. Statistical analyses were performed using a Wilcoxon signed-rank test with significance (α) less than or equal to 0.05 ($P \leq 0.05$).

Results: A total of eighty patients (45 males, 56.96%) and (34 females, 43.04%) with positive SARS-CoV-2 PCR were included in this study. The median age was 63 (51 - 72) years. Seven patients expired (8.75%), and nine patients required mechanical ventilation (11.25%). The median of IL-6 levels before administration of TCZ was 342.50 (78.25 – 666.25) pg/mL compared to after administration of TCZ on day 3, 563 (162-783) pg/mL ($P < 0.00001$). On day 6, the median dropped to 545 (333.50 - 678.50) pg/mL as compared to day 3 ($P = 0.709$). Moreover, CRP, ferritin, LDH, and D-dimers levels were reduced following the administration of TCZ.

TABLE 1: IL-6 of SARS-CoV-2 patients at before and after Tocilizumab treatment

TABLE 1 IL-6 of SARS-CoV-2 patients at before and after Tocilizumab treatment

Variables	Days	Median (IQR)	Wilcoxon Signed Rank	*P*-value
Interleukin-6 (IL-6)	IL-6 Day 0 (pre)	342.50 (78.25 - 666.25)	5.022	< 0.00001**
	IL-6 Day 3 (post)	563.00 (162 - 783)		
	IL-6 Day 0 (pre)	342.50 (78.25 - 666.25)	2.750	0.006**
	IL-6 Day 6 (post)	545 (333.50 - 678.50)		
	IL-6 Day 3 (post)	563.00 (162 - 783)	0.374	0.709
	IL-6 Day 6 (post)	545 (333.50 - 678.50)		

**Statistically significant ($P<0.05$)
Abbreviations: (pre), prior to tocilizumab use; (post), post tocilizumab use.