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**Comparison of the efficacy and safety between anti-thymocyte globulin versus basiliximab in deceased donor kidney transplantation: A multicenter cohort**

**Suyeon Hong**<sup>1</sup>, Kyubok Jin<sup>2</sup>, Seungyeup Han<sup>2</sup>, Young Soo Kim<sup>3</sup>, Chul Woo Yang<sup>1</sup>, Woo Yeong Park<sup>2</sup>, Byung Ha Chung<sup>1</sup>

<sup>1</sup>Department of Internal Medicine-Nephrology, The Catholic University of Korea, Seoul St. Mary's Hospital, Korea, Republic of

<sup>2</sup>Department of Internal Medicine-Nephrology, Keimyung University School of Medicine, Korea, Republic of

<sup>3</sup>Department of Internal Medicine-Nephrology, The Catholic University of Korea, Uijeongbu St. Mary's Hospital, Korea, Republic of

**Objectives:** Induction immunosuppressant is decided upon the condition of deceased donors and recipients in deceased donor kidney transplantation (DDKT). Although anti-thymocyte globulin (ATG) is preferred in immunologically high risk patients, there has no clear evidence for the efficacy and safety of induction agent in DDKT. This study aims to compare the efficacy and safety between ATG and basiliximab (BSX) based on donor characteristics in DDKT.

**Methods:** A total of 724 kidney transplant recipients (KTRs) from 3 transplant centers were enrolled and ATG-DDKT group was 252 and BSX-DDKT group was 472. We investigated the impact of induction therapy based on donor age of 60, donor kidney with acute kidney injury (AKI) and kidney donor profile index (KDPI) score of 65% on post-transplant clinical outcomes in delayed graft function (DGF), acute rejection (AR), infectious complications, allograft and patient survivals.

**Results:** ATG-DDKT group had poor donor condition and highly sensitized recipients than BSX-DDKT group. DGF did not show statistically significant differences according to induction agent in terms of elderly/young donor, AKI/non-AKI, and high-KDPI/low-KDPI subgroups. Acute rejection and infection rate did not show meaningful differences. Death-censored allograft survival and patient survival rate between induction agents were also statistically irrelevant.

**Conclusions:** Our results suggest that though ATG was more frequently applied to poor donor condition and highly sensitized recipients, ATG was not inferior to BSX not only in aspect of survival rate but also DGF, AR and infection aspects. Therefore, as an induction agent, ATG should be considered in preference to BSX, especially in high-risk DDKT.

Risk factors for allograft failure in deceased donor kidney transplantation

**Table 5. Risk factors for allograft failure in deceased donor kidney transplantation**

	Unadjusted HR (95% C.I.)	P	Adjusted HR <sup>a</sup> (95% C.I.)	P
Induction therapy	1.225 (0.715-2.10)	0.460	0.713 (0.360-1.413)	0.332
<b>Transplant years</b>				
1996-2005	Reference		Reference	
2006~2012	0.760 (0.182-3.169)	0.706	0.601 (0.303-1.189)	0.923
2013-2019	0.440 (0.103-1.886)	0.269	0.376 (0.101-1.673)	0.931
<b>Transplant centers</b>				
Seoul St. Mary Hospital	Reference		Reference	
Uijeongbu St. Mary Hospital	1.187 (0.508-2.774)	0.692	0.742 (0.281-1.959)	0.547
Kyemyeoung Dongsan Hospital	0.551 (0.298-1.018)	0.057	1.025 (0.311-3.382)	0.968
Recipient age	0.971 (0.48-0.994)	0.014	0.984 (0.958-1.011)	0.253
Recipient gender	0.980 (0.607-1.582)	0.934	0.938 (0.545-1.613)	0.816
Recipient BMI	0.981 (0.914-1.054)	0.608	0.963 (0.892-1.040)	0.336
Donor age	1.020 (1.002-1.040)	0.034	0.999 (0.972-1.026)	0.931
Donor gender	1.726 (1.076-2.770)	0.024	0.686 (0.400-1.178)	0.172
Donor BMI	0.956(0.891-1.026)	0.215	0.973 (0.896-1.057)	0.521
Cold ischemic time	0.999 (0.997-1.001)	0.564	1.001 (0.998-1.003)	0.714
Prior KT	1.119 (0.535-2.340)	0.765	1.070 (0.449-2.548)	0.879
PRA class I+II>30%	0.845 (0.439-1.626)	0.614	2.458 (0.652-9.265)	0.184
Delayed graft function	1.301 (0.759=2.229)	0.338	0.569 (0.308-1.052)	0.072
BPAR	7.811 (4.711-12.953)	0.001	0.135 (0.075-0.244)	0.001
Deceased donor AKI	1.451 (0.892-2.358)	0.133	0.890 (0.496-1.597)	0.696
KDPI score	2.767 (1.626-4.708)	0.001	0.406 (0.186-0.889)	0.024