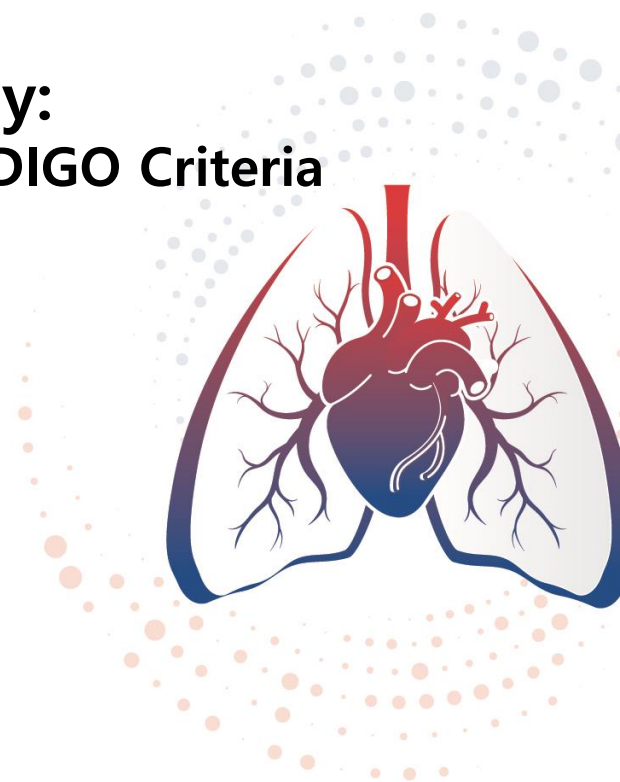


2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

Acute Kidney Injury after Heart Valve Surgery: Incidence and Impacts on Clinical Outcomes According to the KDIGO Criteria



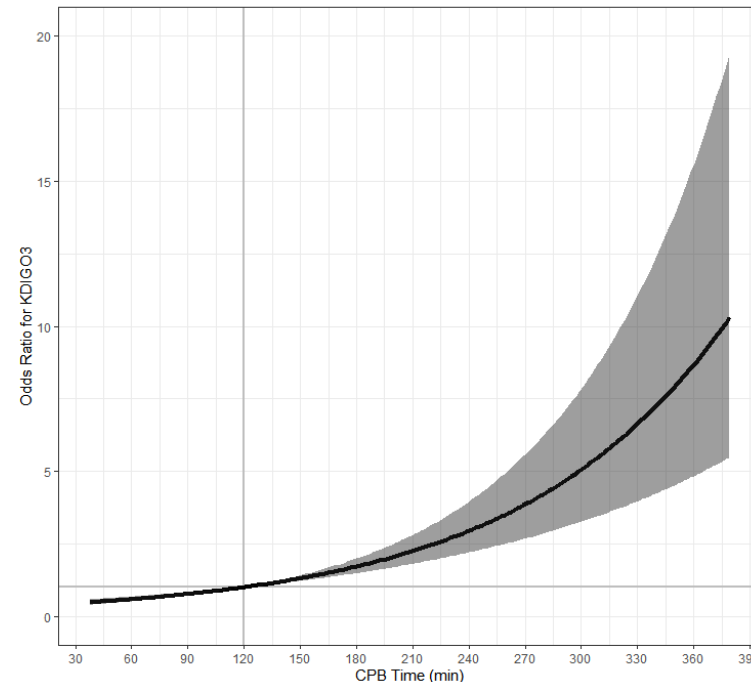
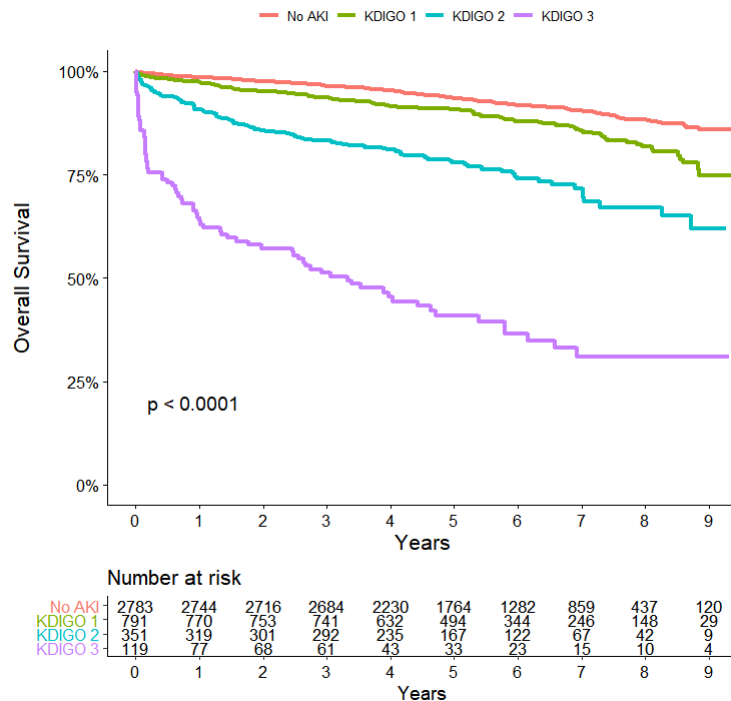
- We assessed the incidence of acute kidney injury (AKI) after heart valve surgery, and evaluated the predictors of AKI, and examined its association with adverse clinical outcomes.

- By querying our institutional cardiac surgery registry, we retrieved consecutive 4,044 patients (aged 60.1 ± 13.3 years, 1,862 women) who underwent heart valve surgery between September 2013 to January 2021
- Excluded were those with preoperative hemodialysis (N=151), mechanical circulatory support (N=151), and hypothermic circulatory arrest during surgery (N=512).
- The severity of AKI was classified according to the criteria of 2011 Kidney Disease: Improving Global Outcomes (KDIGO) Guidelines.

- Of a total of 4,044 patients, AKI occurred in 1,261 (31.2%) patients.
- Of 1,261 patients who had AKI, 791, 351, and 119 patients were classified as KDIGO stage 1, 2, and 3, respectively.
- Patients who had KDIGO stage 3 AKI had a higher incidence of early complications and overall death (Table).

	No-AKI	AKI, KDIGO Stage				P-value			
		KDIGO 1	KDIGO 2	KDIGO 3		Overall Comparison	No-AKI vs KDIGO 1	No-AKI vs KDIGO 2	No-AKI vs KDIGO 3
Early Complications									
Postoperative bleeding	35 (1.26)	29 (3.67)	19 (5.41)	21 (17.65)		<0.001	<0.001	<0.001	<0.001
Stroke									
Ischemic stroke	24 (0.86)	15 (1.9)	21 (5.98)	11 (9.24)		<0.001	0.014	<0.001	<0.001
Hemorrhagic stroke	4 (0.14)	4 (0.51)	1 (0.28)	6 (5.04)		<0.001	0.078	0.448	<0.001
Prolonged intubation	144 (5.17)	147 (18.58)	109 (31.05)	68 (57.14)		<0.001	<0.001	<0.001	<0.001
Pneumonia/ARDS	29 (1.04)	36 (4.55)	47 (13.39)	35 (29.41)		<0.001	<0.001	<0.001	<0.001
New-onset dialysis	0 (0)	0 (0)	0 (0)	104 (87.39)		<0.001	-	-	<0.001
Bowel ischemia	4 (0.14)	1 (0.13)	4 (1.14)	8 (6.72)		<0.001	1.000	0.008	<0.001
Early death	8 (0.29)	6 (0.76)	9 (2.56)	21 (17.65)		<0.001	0.097	<0.001	<0.001
Overall Death*	231 (14.04)	107 (25.2)	90 (38.04)	74 (68.98)		<0.001	<0.001	<0.001	<0.001

- Patients with KDIGO stage 3 AKI had a lower overall survival than those with KDIGO stage 1 or 2 AKI (Figure, left)
- Longer cardiopulmonary bypass time (> 120 minutes) predicted the occurrence of KDIGO stage 3 AKI on the cubic spline analysis (Figure, right)



- AKI occurs in a significant number of patients (31.2%) after heart valve surgery.
- The KDIGO classification demonstrated a discriminative ability in predicting the risks of both early and overall mortality.
- A longer cardiopulmonary bypass time predicts the risk of AKI after heart valve surgery