

Table 1: Summary of preoperative, intraoperative, and postoperative risk factors

Preoperative	Intraoperative	Postoperative
Female gender	Cardiopulmonary bypass time	Cardiogenic shock
Advanced age	Aortic cross-clamp time	Hypovolemia
Chronic kidney disease	Venous congestion	Venous congestion
History of smoking	Complex/emergent surgery	Blood transfusion
Anaemia	Hypovolemia	Vasopressor exposure
Hyperlipidaemia	Hypoperfusion	Anaemia
Diabetes	Hypothermia	Nephrotoxic drug use

Table 2: Brief summary of outcomes of the studies providing data on acute kidney injury

Author /Year	Study Type	Sample Size	AKI	Age	Sex	Hypertension	Diabetes	CPB Time	Mortality	Conclusion
Vellinga et al. ⁹ (2012)	Retrospective single-centre cohort	565	83 (14.7%)	69.9 ± 10.2	Male n= 67	-	16	85.8 ± 26.7	-	Intraoperative administration of packed cells and postoperative administration of furosemide or packed cells is a potentially modifiable risk factor for the development of AKI
Amini et al. ¹⁰ (2019)	Prospective cohort	1737	275 (15.8%)	61	Male n=167	140	106	193	28	Advanced age, diabetes, on-pump surgery, prolonged mechanical ventilation etc. are positive independent risk factors for AKI
Mao et al. ¹³ (2015)	Observational cohort	209	98 (46.8%)	83.9	Male n=58	55	22	101.3 ±43.3	13	AKI is associated with significant functional impairment and reduce survival
Billings et al. ¹⁶ (2011)	Case control	20	10 (50%)	69.9±4.2	Male n= 6	9	3	-	-	Mechanisms that contribute to postoperative AKI are multifactorial and incompletely understood

Leite et al. (2013)	Observational cohort	300	150	55.5 ± 19.1	Male n=84	67	34	-	108	Using a time-approach could be a better parameter to assess the association between RRT initiation and outcomes in patients with AKI
Thakar et al. ¹⁷ (2005)	Single-center cohort	15,838	269	66.7	Male n=158	-	93	-	149.7	Accurate prediction of AKI provides an opportunity to develop strategies for early diagnosis and treatment

AKI= acute kidney injury; CPB= cardiopulmonary bypass; ‘-‘ = no data

Table 3: Patient-related and procedure-related risk factors for the progression of CKD after cardiovascular surgery

Patient-related	Procedure-related
<ul style="list-style-type: none">• Postoperative AKI• Advancing age (>65yrs)• Pre-existing comorbidities (heart failure, diabetes)	<ul style="list-style-type: none">• Complexity of surgery• Prolonged aortic clamping time• Norepinephrine use during CPB