Table 1. Summary of characteristics and main outcomes of included studies.

Author (year)	RCT	Country	Type of donor kidney	GDT (n)	Control (n)	GDT protocol	Control protocol	Therapy method	Measure of postoperative renal function	Postoperative renal outcome	Intraoperative intravenous fluid	MAP at reperfusion	Other postoperative outcomes	Conclusion
Cassai et al. (2020)[24]	Yes	Italy	Cadaveric	19	20	Arterial waveform analysis: PPV <12%	Baseline 10 mL kg^{-1} h^{-1} infusion with one for one replacement for bleeding	Fluids	Dialysis within 1 week of transplant, serum biomarkers (urea, creatinine), urine output	GDT significantly reduced serum urea and creatinine levels. No statistical difference was found in urine output and incidence of dialysis.	GDT group used significantly less fluids.	Both groups were comparable.	No difference in incidences of patients with clinical and radiological signs of fluid overload requiring oxygen therapy, cumulative furosemide dose or total length of stay.	GDT is as adequate a strategy as liberal fluid management and may reduce incidences of fluid overload.
Cavaleri et al. (2019)[25]	No	Italy	Unknown	33	33	Arterial waveform analysis: SVI <10% of optimal SV	CVP 8–12 mmHg MAP ≥80 mmHg	Fluids and vasoactive agents	Dialysis within 1 week of transplant; serum biomarkers (creatinine, blood urea nitrogen, potassium); urine output	GDT significantly reduced serum creatinine level and incidence of dialysis. No statistical difference in serum biomarkers or urine output.	GDT group used less fluids but not statistically significant.	Both groups were comparable.	GDT group had statistically fewer acute coronary syndromes in first postoperative week, lower rate of ileus in first 72h post-transplant. No difference in respiratory distress syndrome, pneumonia, acute pulmonary oedema, congestive cardiac failure or 30-day morbidity.	GDT may be renal protective and may reduce postoperative morbidity.

Table 1. Summary of characteristics and main outcomes of included studies. (Cont'd)

Author (year)	RCT	Country	Type of donor kidney	GDT (n)	Control (n)	GDT protocol	Control protocol	Therapy method	Measure of postoperative renal function	Postoperative renal outcome	Intraoperative intravenous fluid	MAP at reperfusion	Other postoperative outcomes	Conclusion
Corbella et al. (2018)[26]	Yes	Canada	Cadaveric	26	24	Oesophageal Doppler monitoring: SV >75% baseline	CVP 12–15 mmHg Systolic blood pressure >100 mmHg	Fluids and inotropes	Dialysis within 1 week of transplant; serum biomarkers (creatinine)	No difference between groups in all measures.	GDT group used more fluids but not statistically significant.	Not mentioned.	GDT group had statistically more incidences of cardiac events that included new onset arrhythmia, myocardial infarction, pulmonary embolism, cardiogenic pulmonary oedema and cardiac arrest. No difference in length of stay and other complications (respiratory, infectious, neurological).	Further trials are required to determine the benefits of GDT.
Goyal et al. (2022)[27]	Yes	India	Living	35	40	Arterial waveform analysis: PPV <10–13%	CVP >15 mmHg	Fluids	Dialysis within 1 week of transplant; serum biomarkers (creatinine); urine output	No difference between groups in all measures.	GDT group used less fluids but not statistically significant.	Both groups were comparable.	GDT group had statistically less incidences of tissue oedema (swelling on eyelid, face and feet). No difference in incidences of mechanical ventilation, postoperative nausea and vomiting, pulmonary oedema and postoperative serum lactate levels.	GDT may be renal protective and may reduce postoperative morbidity.

Table 1. Summary of characteristics and main outcomes of included studies. (Cont'd)

Author (year)	RCT	Country	Type of donor kidney	GDT (n)	Control (n)	GDT protocol	Control protocol	Therapy method	Measure of postoperative renal function	Postoperative renal outcome	Intraoperative intravenous fluid	MAP at reperfusion	Other postoperative outcomes	Conclusion
Kannan et al. (2022)[28]	Yes	India	Mixed	35	35	Arterial waveform analysis: PPV <9%	CVP 5 mmHg until the clamping of donor renal vessels; CVP 12–15 mmHg at reperfusion	Fluids and vasoactive agents	Dialysis within 1 week of transplant; serum biomarkers (urea, creatinine, rate of creatinine reduction); urine output	No difference between groups in all measures.	GDT group used significantly less fluids.	Both groups were comparable.	No difference in serum lactate levels; and no difference in tissue oedema or need for mechanical ventilation between the groups.	GDT reduces total intraoperative fluids used but further studies are required to determine benefits of postoperative morbidity.
Srivastava et al. (2015)[29]	No	India	Living	110	104	Oesophageal Doppler monitoring: flow time corrected >350 ms	CVP >15 mmHg	Fluids	Dialysis within 1 week of transplant; serum biomarkers (creatinine); urine output	No difference between groups in all measures.	GDT group used significantly less fluids.	Both groups were comparable.	GDT group had statistically less need for postoperative supplemental oxygen, and incidence of postoperative visual oedema. No difference in postoperative mechanical ventilation.	GDT may be beneficial in reducing fluid overload complications.
Zhang et al. (2021)[30]	No	China	Unknown	49	48	Arterial waveform analysis: SVV <10%	CVP 6–9 mmHg MAP ±20% of basal value and >90 mmHg	Fluids and vasoactive agents	Dialysis within 1 week of transplant; serum biomarkers (creatinine, blood urea nitrogen, creatinine clearance rate); urine output	GDT group had significantly lower serum creatinine level and incidence of dialysis but no statistical difference in serum biomarkers or urine output.	GDT group used significantly less fluids.	Both groups were comparable.	No difference in pulmonary oedema, respiratory failure or heart failure.	GDT can reduce intraoperative fluid infusion, and has benefits in postoperative renal outcomes.

CVP: central venous pressure; GDT: goal-directed therapy; MAP: mean arterial pressure; PPV: pulse pressure variation; RCT: randomised controlled trial; SV: stroke volume; SVI: stroke volume index; SVV: stroke volume variation
Superscript numbers: refer to REFERENCES