

Title: The Use of Ultrafiltration After Cardiac Surgery – A Single Center Experience

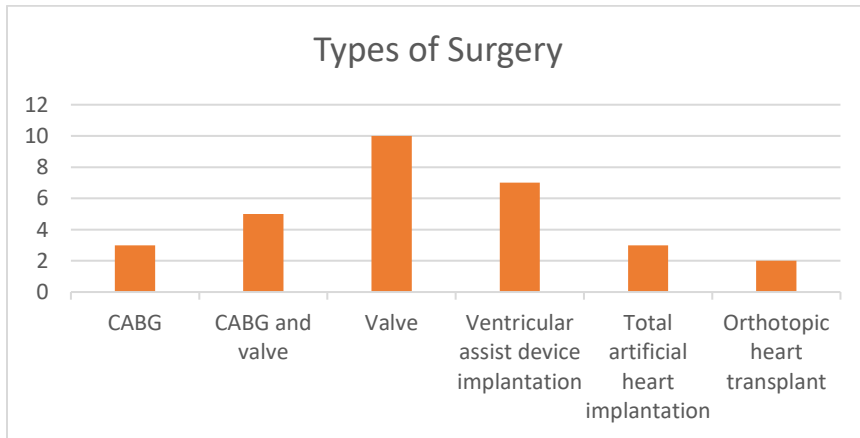
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Purpose of study: Hypervolemia is common after cardiac surgery. Ultrafiltration (UF) is used frequently to decongest patients in acute heart failure, but its utility in post-cardiac surgery has not been studied. We sought to explore the use of UF in this setting at our institution.

Methods used: We conducted a retrospective chart review of all cardiac surgery cases registered in the Society of Thoracic Surgeons database and INTERMACS at our center from October 2016 to June 2018. Patients were identified using search terms “ultrafiltration,” “aquapheresis,” “Aquadex,” or “CHF solutions.”

Summary of results: A total of 136 charts were identified. Of these, 30 patients underwent UF post-operatively. The remainder were excluded as they had “ultrafiltration” recorded in their charts for continuous veno-venous hemofiltration (CVVH) only. Mean age of the patients was 63+/- SD years, and 63% were male. Chronic kidney disease stage 3 or higher was present in 14 patients (47%), and 5 (17%) were on chronic dialysis for end-stage renal disease. Most patients had valvular surgery (alone or with CABG), while the rest had advanced heart failure therapies (36%).



Majority underwent UF as an adjunct to CVVH/HD (n = 27). In most of these cases, UF was done to augment fluid removal in the setting of acute kidney injury. Only 3 patients received UF alone for acute kidney injury with fluid overload that was unresponsive to diuretics (without need for renal clearance by CVVH/HD). Overall, 33% (n = 10) of the patients had recovery of renal function, and 12 patients died in-hospital.

	Outcomes		
	Renal recovery	Dialysis	In hospital Death
UF + CVVH or HD (n = 27)	7	8	12
UF alone (n = 3)	3	0	0

Conclusion: UF was used in a sick post-cardiac surgery population mostly as an adjunct to CVVH or HD to augment fluid removal. Among these, one-third experienced renal recovery. Further research is needed to understand the benefits or risks of UF in the post-cardiac surgery population.