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Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

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Urine Microscopy as Predictor of Renal Replacement Therapy in Patients with Acute Kidney Injury

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Objectives : This study determined the correlation between urinary sediment cast analysis findings with the need for renal replacement therapy for patients with acute kidney injury among hospitalised patients.
Methods : This study was prospective cross-sectional study which investigated the correlation between urinary sediment cast analysis findings with the need for renal replacement therapy for patients with acute kidney injury among hospitalised patients
Results : Urinary sediment cast scoring index of patients who are alive have a range of scores 1-2 and only 10% of them underwent hemodialysis. While patients who died have CSI scores range of 1-3 and 60% of them underwent hemodialysis. Moreover, due to the limited data points, it did not provide sufficient evidence to find association of AKI stage and urinary sediment CSI. But, at .10 level of significance, urinary sediment CSI is associated with hemodialysis.
Conclusions : Urine microscopy analysis is not greatly used especially for those non nephrologist clinicians. Nonetheless, this simple yet informative diagnostic tool can aid in assessment of patients with AKI severity and prognosis. The clinical significance of urine microscopy findings may be confounded by many factors, from specimen collection and preparation to subjective interpretation but the use of scoring system such as the AKI CSI may be helpful in standardizing the results. Based on this study, despite its limited sample size, there is an association between CSI score and likelihood of hemodialysis. Incorporating this simple, yet helpful diagnostic tool in patients suspected to have AKI, can greatly facilitate more aggressive management and probably early initiation of renal replacement therapy

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Hemodialysis and CSI Association

Urinary sediment CSI	Hemodialysis		Computed Stats	p-value
	Yes ($n = 10$)	No ($n = 15$)		
0 point	1 (10.0)	5 (33.3)	$x^2(3) = 6.713$	.082*
1 point	2 (20.0)	7 (46.7)		
2 points	6 (60.0)	2 (13.3)		
3 points	1 (10.0)	1 (6.7)		

*significant at .10