

Mortality Following PCI in Patients with Renal Failure in Northern New England (NNE): In-Hospital, in the Era of Stents and Long Term

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Background: Percutaneous transluminal coronary intervention (PCI) is associated with poorer outcomes in patients with dialysis-dependent renal failure (RF). Prior studies, however, have reported on small numbers of patients from single institutions and largely from the pre stent era. Therefore, we used data from our large, regional PCI registry to examine in-hospital mortality from 1993-1996 (Pre Stent) and 1997-1999 (Post Stent), and longer term survival (Pre Stent), for patients with RF.

Methods: From 1993-1999 data was collected on 31,208 consecutive patients, of whom 968 (3.1%) had RF. Survival was obtained by linkage to the National Death Index. Logistic regression and Cox proportional hazard models were used to control for case-mix.

Results: Pre Stent, adjusted in-hospital mortality for RF patients was 3.1% versus 1.1% for no RF patients (OR 2.94, 95%CI 1.49, 5.78.), with little change in the Post Stent era (RF 4.5%, no RF 0.9%, OR 2.88, 95%CI 1.86, 4.46). In RF patients, stent use (61.8% of patients) did not change in-hospital mortality (stented 5.0%, not stented 4.2%, p=0.629). Survival at a mean follow-up of 1.77 years was 76%. The adjusted hazard ratio for survival (RF v no RF) was 3.94 (95%CI 2.98, 5.20). RF conferred a higher risk of death than did the presence of multi-vessel disease (see Table).

Adjusted Outcome	Single Vessel		Multivessel	
	Renal Failure		Renal Failure	
	No	Yes	No	Yes
OR In-Hospital Mortality	1.00	2.46	1.91	6.13 *
Hazard Ratio Survival	1.00	4.86	1.62	5.47 *

*p<0.01

Conclusion: Patients undergoing PCI with RF have a high rate of in-hospital mortality which has not improved with the availability of stents. Survival for these patients is relatively poor. Whether aggressive medical management or bypass surgery is a better option is not clearly established.