

V Dey¹, T E Farrah², J P Traynor³, E Spalding¹, S Robertson⁴, C C Geddes²

1 Renal Unit, University Hospital Crosshouse 2 Glasgow Renal and Transplant Unit
3 Renal Unit, Monklands Hospital 4 Renal Unit, Dumfries and Galloway Royal Infirmary

OBJECTIVES

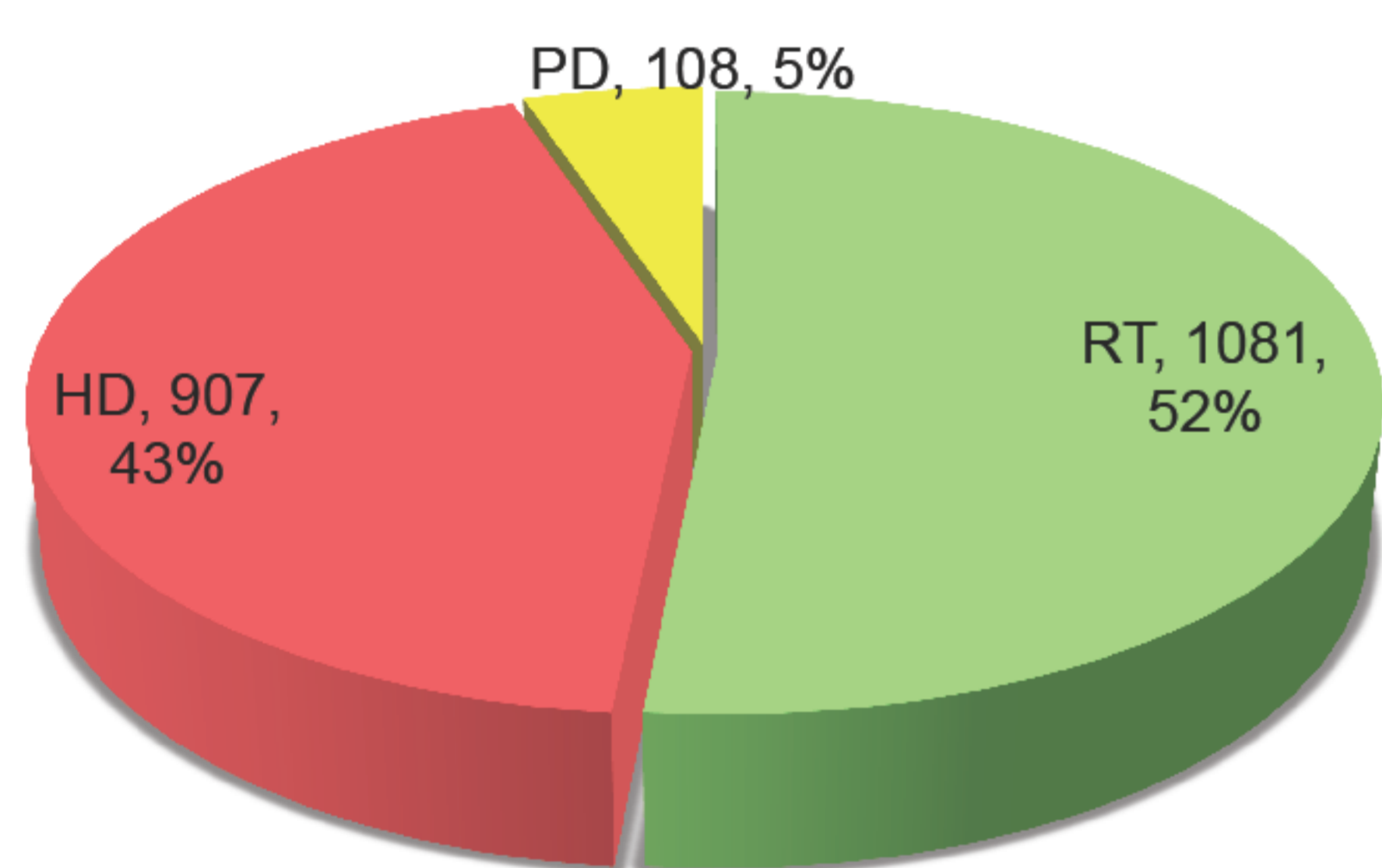
Patients on renal replacement therapy (RRT) are at increased risk of bone fracture because of altered bone metabolism termed Chronic Kidney Disease-Mineral and Bone Disorders (CKD-MBD). The incidence of bone fracture in prevalent RRT patients is poorly defined.

The aim was to quantify the incidence of radiologically proven bone fracture in prevalent RRT patients and compare renal transplant and dialysis patients.

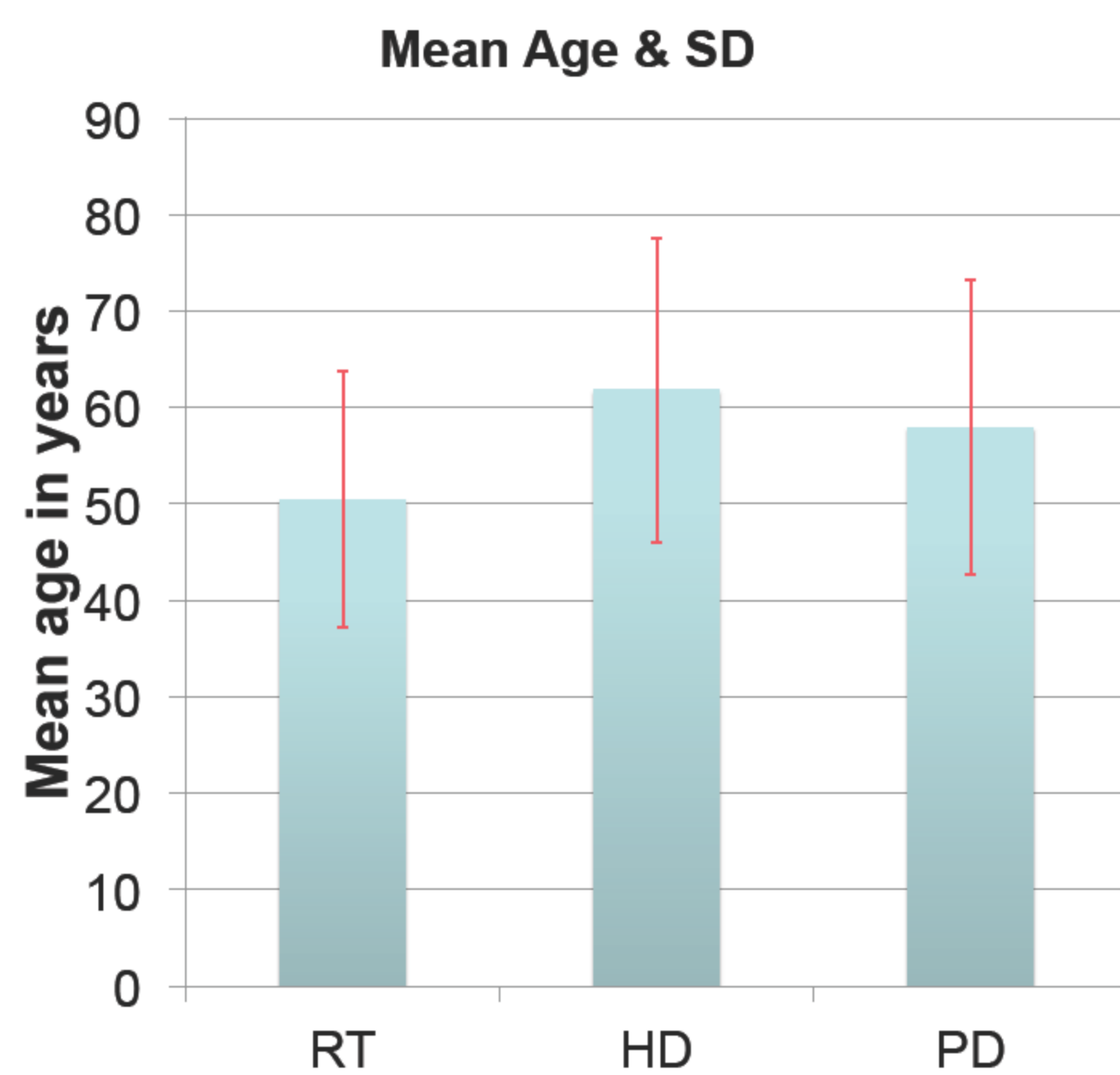
METHODS

We undertook a retrospective analysis of electronic patient records for all prevalent renal transplant (RT), haemodialysis (HD) and peritoneal dialysis (PD) patients across the West of Scotland. Study inception date was 7th July 2010 and patients were followed until August 2013. All radiology reports from all hospitals in the West of Scotland were included and searched to determine the number of fractures per patient year. The endpoint of follow up was defined by date of death or last documented biochemistry result.

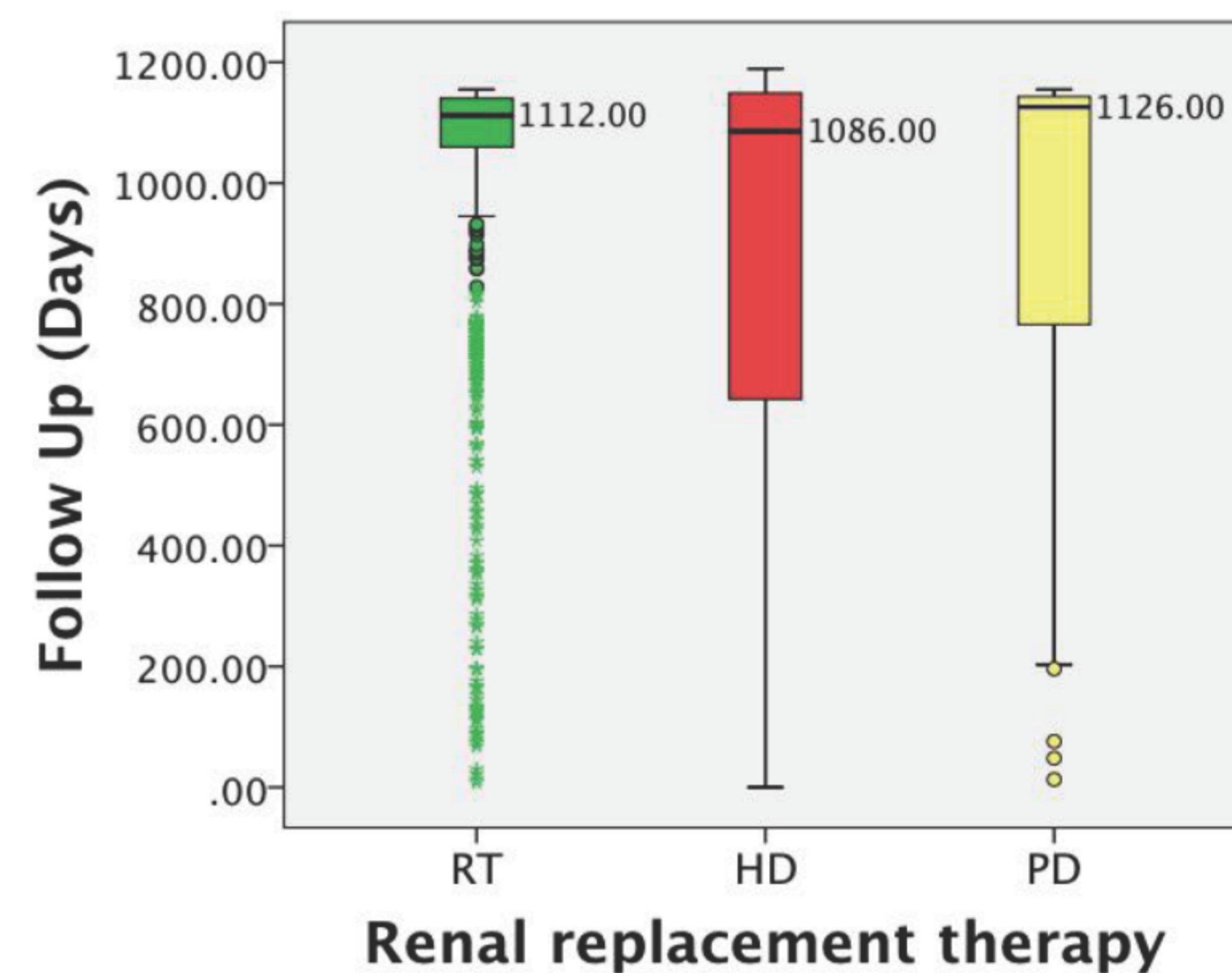
RESULTS



RRT Modality at entry (n=2096)



Mean age & SD
RT 50.4 (13.3), HD 61.8 (15.8), PD 57.9 (15.3)



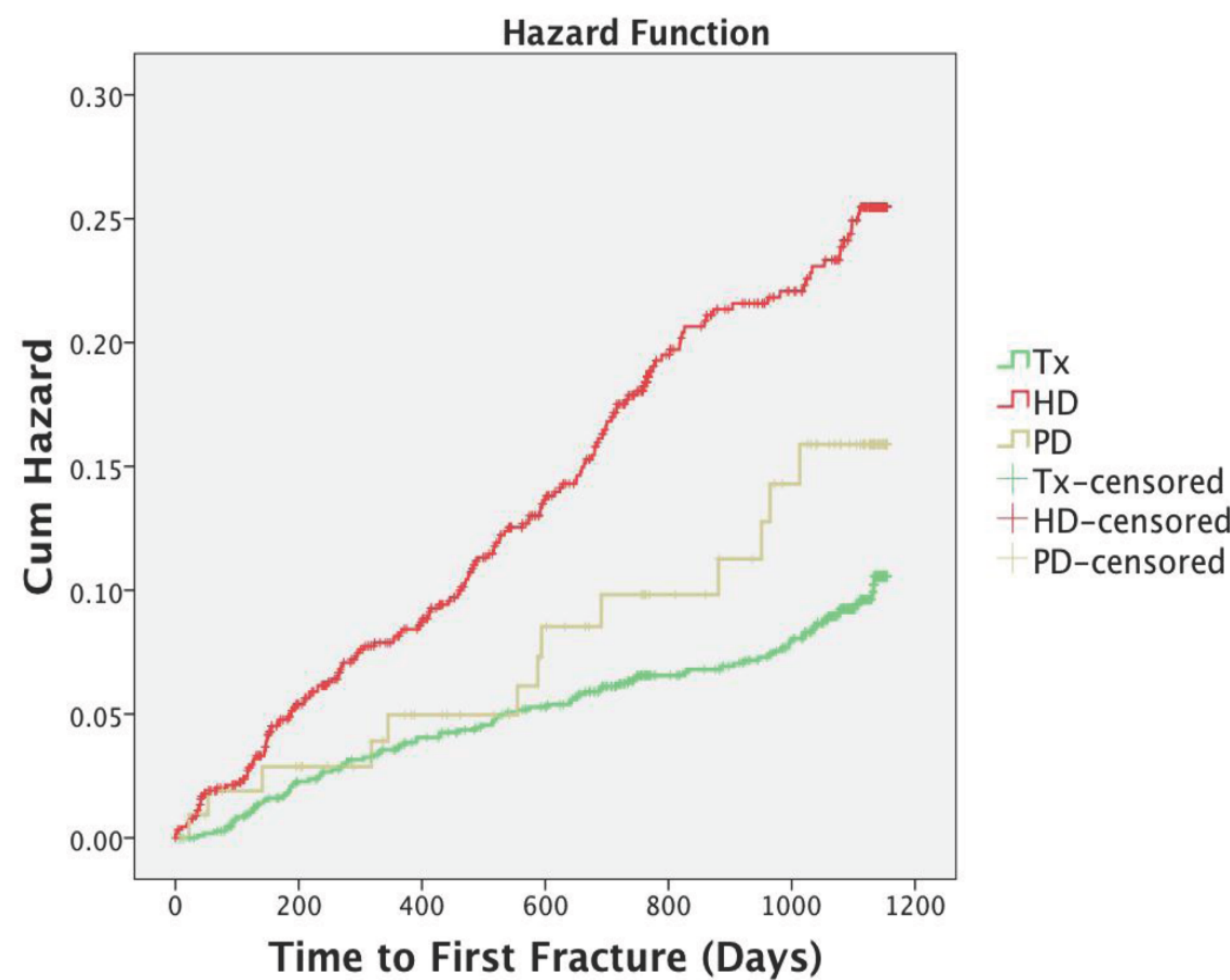
Follow up – median & range
RT (8-1155), HD (0 – 1189), PD(3- 1155)

Relative Risk of Fracture	Fracture Risk	Confidence Interval	RRT modality	Incidence of # (pp year)
HD Vs RT	2.6	2.59 - 2.61	HD	0.098
PD vs RT	1.5	1.525- 1.532	PD	0.058
HD Vs PD	1.7	1.68 - 1.70	RT	0.038

Overall incidence of radiologically proven # - 0.062 pp year

Case Processing Summary

RRT Type	Total N	N of Events	Censored	
			N	Percent
RT	1081	92	989	91.5%
HD	907	161	746	82.2%
PD	108	13	95	88.0%
Overall	2096	266	1830	87.3%



CONCLUSIONS

Our study show that relative risk of fracture is higher in patients on haemodialysis compared to renal transplant patients and patients on peritoneal dialysis. Further research is warranted to determine if the association between RRT modality and fracture incidence is independent of other risk factors for fracture.