

# BENEFITS OF A SATELLITE HAEMODIALYSIS UNIT WITH AN EXTENDED ROLE : EXPERIENCE FROM WEST WALES

Sarah Rees<sup>1</sup>, Delyth Timmis<sup>2</sup>, Ben O'Donohoe<sup>3</sup>, Vandse S. Aithal<sup>1</sup>, <sup>1</sup>Morrison Hospital, Renal Unit Swansea, United Kingdom; <sup>2</sup>Glangwili Hospital, Fresenius Satellite Dialysis Unit Carmarthen; <sup>3</sup>Glangwili Hospital, Intensive Care Unit, Carmarthen, United Kingdom.

## INTRODUCTION AND AIMS

Most renal units in the UK adopt a hub and spoke model to deliver haemodialysis to patients close to home(1). Patients travel to the main unit for treatment of acute medical problems and hospitalisation. This impacts negatively on patient and family experience if the catchment population lives in a rural area such as West Wales. The experience from the Fresenius run satellite unit based in Glangwili Hospital, Carmarthen West Wales is presented, where AKI and acute medical problems in chronic HD patients are treated locally, by a resident Speciality doctor, two visiting nephrologists, the medical teams and ITU.

## METHODS

All patients with acute kidney injury (AKI) from a pre/post renal cause admitted to Glangwili hospital requiring dialysis and all admissions of chronic haemodialysis (HD) patients from the satellite unit between 2010 and 2012 inclusive, were included in the analysis.

Patient demographics, aetiology of AKI, in hospital mortality, survival at 3 months post discharge, survival at 1 year in patients with AKI, bed days saved by the main unit and the mileage saved by patients' families, were included.

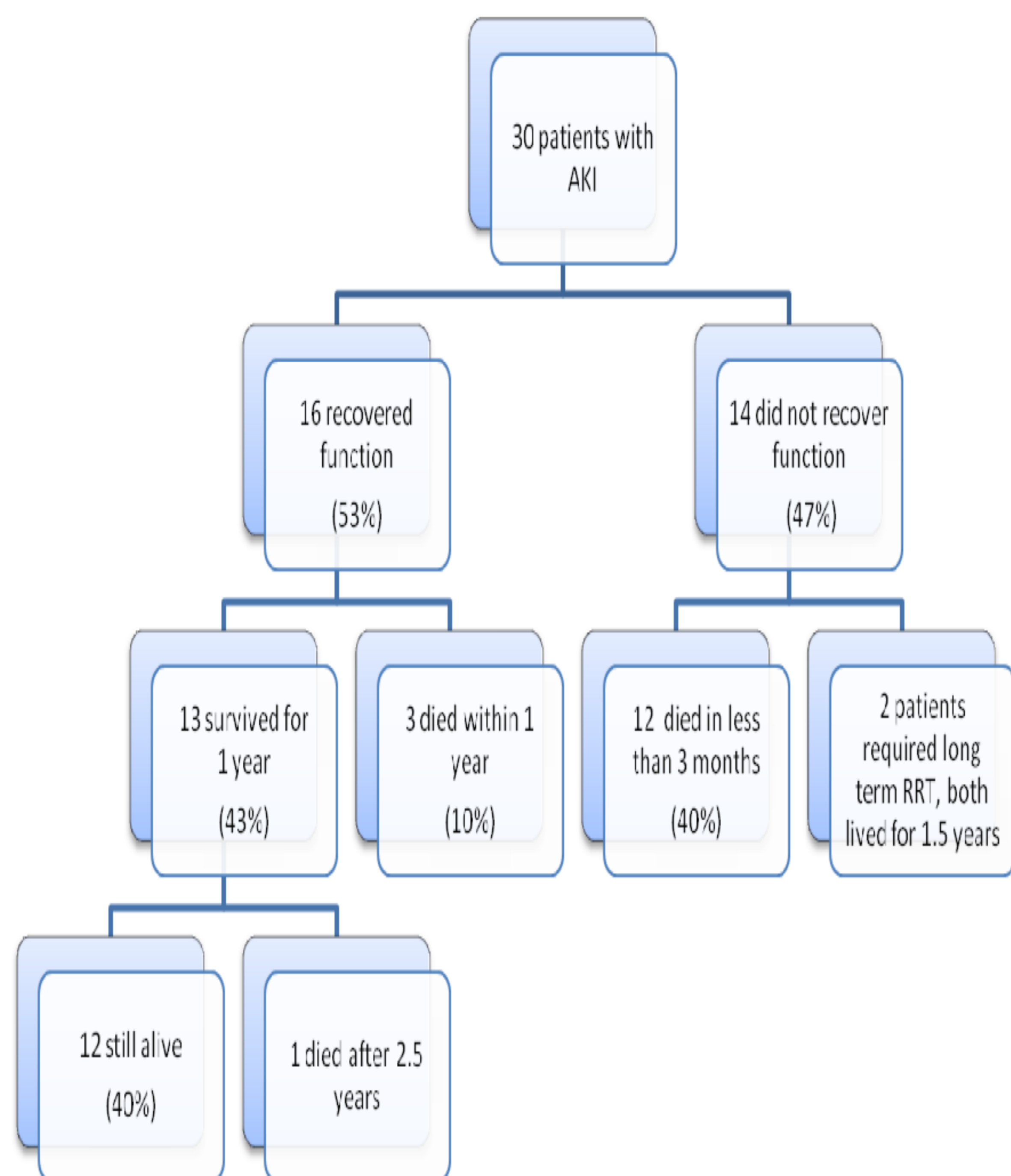
## RESULTS

30 patients with AKI received 392 sessions (range 1-65) of haemodialysis in the satellite unit. Median age of the patients with AKI was 72 years. 26/30 with AKI were initially filtered on ITU, 9/30 required ventilatory support while on ITU. The mortality was 40% at 3 months and 50% at one year. 80% of those who died within 1 year had not recovered renal function. 14/30 (47%) did not recover renal function and 86% of these died within 3 months. 50% of the patients were alive after 1 year. The creatinine of those who recovered function ranged from 77 to 338 at one year (median 115 umol/l).

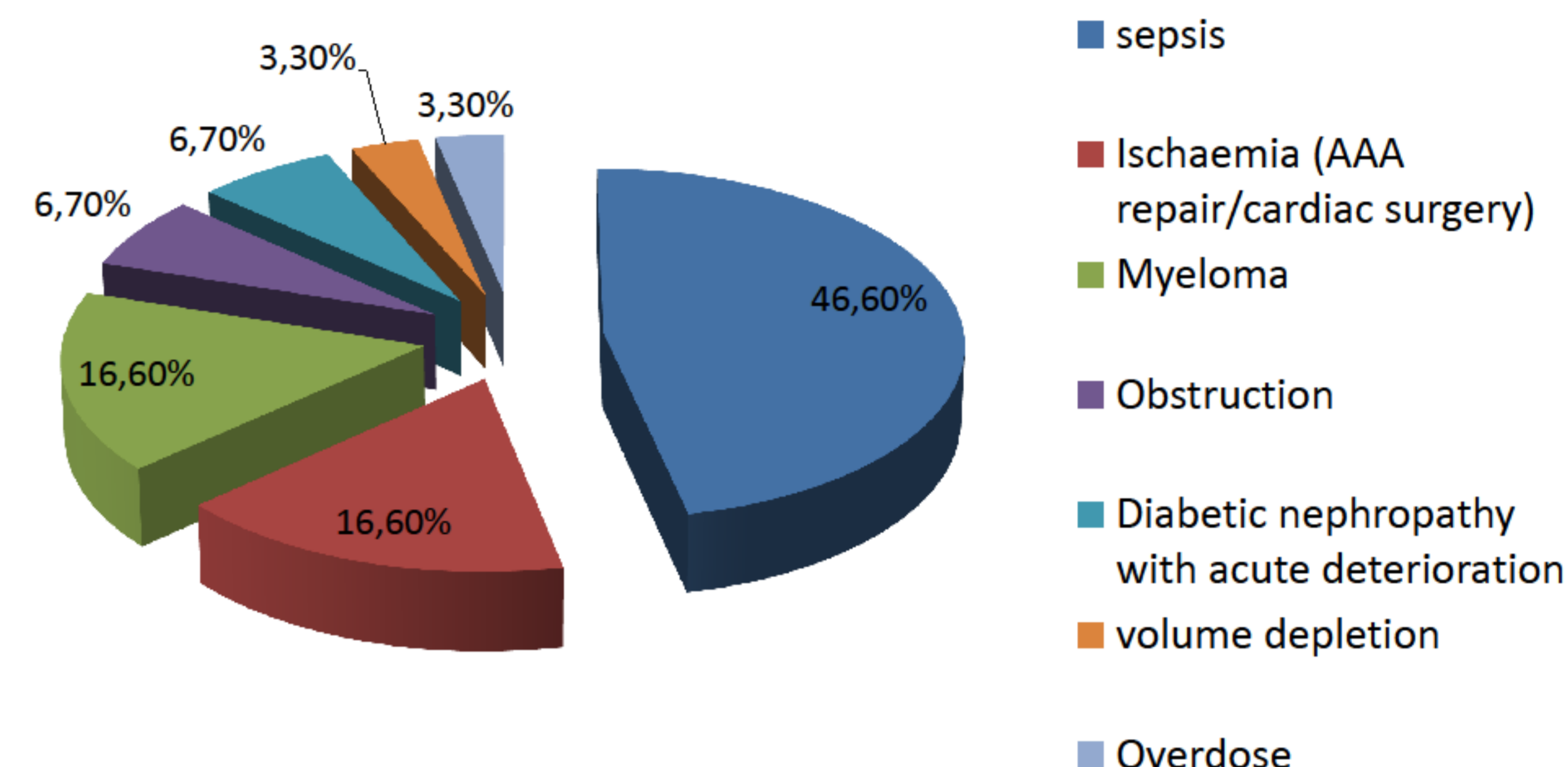
139 patients on long term haemodialysis in the satellite unit were admitted on a total of 325 occasions between 2010 and 2012, 20% to the main unit in Morrison Hospital Swansea, and 80% to the local hospitals. Some patients were admitted multiple times, each one counted separately. 3238 inpatient days were spent in Glangwili Hospital, Carmarthen between 2010 and 2012. The median stay was 6 days. 34.53% died before discharge. 214 admissions (65.84%) resulted in a successful discharge.

The mortality in patients with AKI requiring HD (40%) compares favourably with reports in literature(2). We could not find data regarding mortality following hospitalisation in patients on haemodialysis.

Distances travelled from home to the satellite unit for our patients ranged from 1 mile to 50 miles, with a visit to the main renal unit increasing the range of distances from 11.4 to 73 miles for a return journey. The average distance travelled by relatives to visit patients in the local district hospital per visit was 48 miles versus 72 miles to the main unit



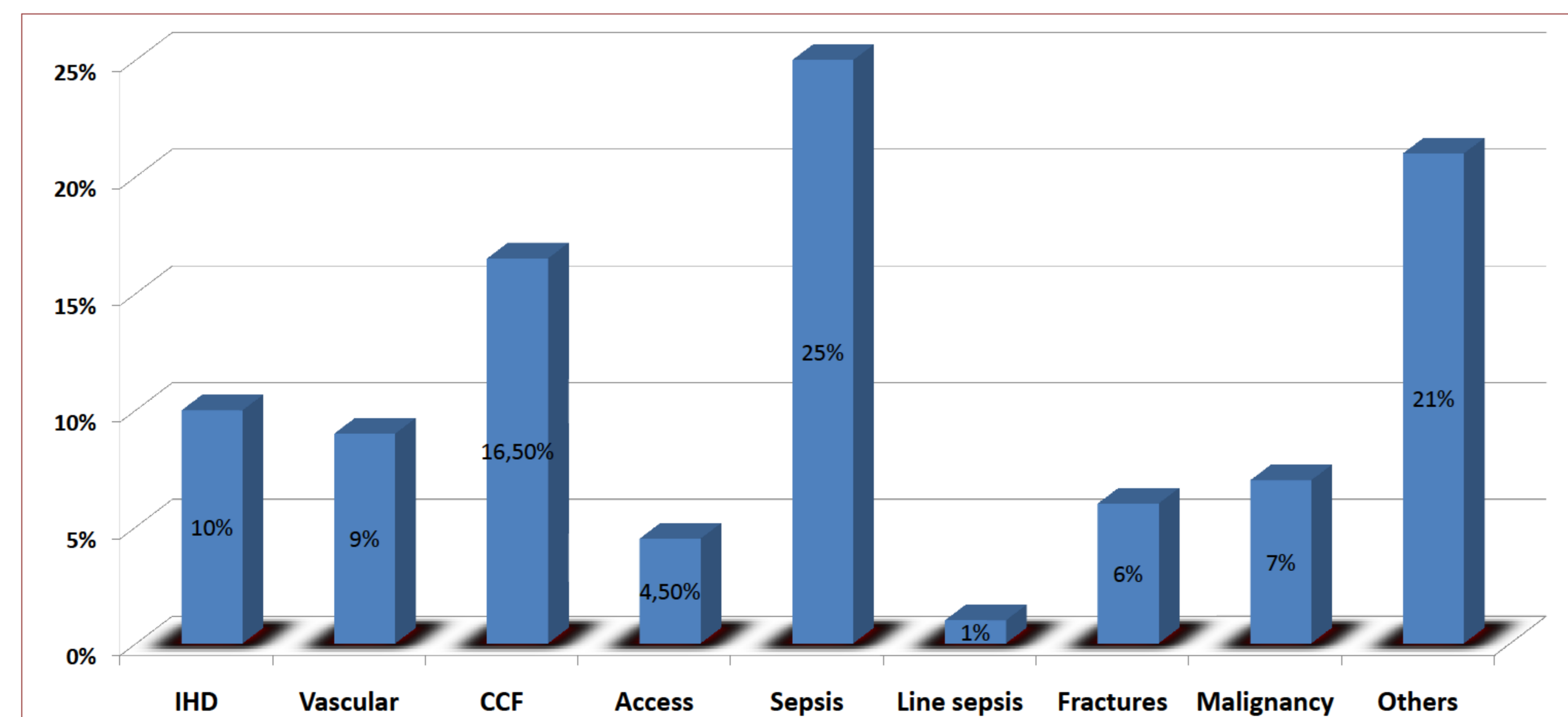
Outcomes in patients with AKI



Aetiology of AKI

	Morrison Hospital (Main unit)	Carmarthen Hospital
Carmarthen HD	27 miles	0 miles
Haverfordwest HD	55 miles	28miles
Aberystwyth HD	74 miles	47 miles

Satellite HD units in West Wales



Indications for admission in chronic HD pts

## CONCLUSIONS

The extended role adopted by our satellite unit provided the following benefits:

- 1.Reduction in pressure on resources in the main unit
2. Better interaction between the satellite unit and the local ITU with better access to ITU for patients on chronic haemodialysis with significant co-morbidities
3. Less interruption to care provided by other specialities in the local DGH
4. Less travel for families of patients.

Our experience demonstrates that patients with AKI (from pre/post renal causes) requiring dialysis and acute medical problems in patients on long term HD can be safely managed through a satellite dialysis unit with suitable support systems. The proactive approach and enthusiasm of dialysis nurses in the satellite unit with the close collaboration between the medical teams , ITU in the local hospital and the renal team was crucial to the execution of this exercise

## REFERENCES

1. Renal NSF wales (standards 7-11),2007
2. Effect of acute renal failure requiring renal replacement therapy on outcome in critically ill patients Menitz PG et al Crit Care Med 2002 Sep;30(9):2051-8