Predictors of outcome in a HLA incompatible renal transplant cohort

Tineke Rennie
Transplant fellow
Royal Infirmary of Edinburgh

NHS Lothian

HLA incompatible kidney transplantation

- An option for highly sensitised patients

- Wide variability in
  - Definition of HLA incompatibility
  - Experience of HLAi transplants in UK transplant centres
  - Immunosuppression protocols

- Establishing the optimal treatment regimen and minimising the risk of adverse outcomes remains a challenge

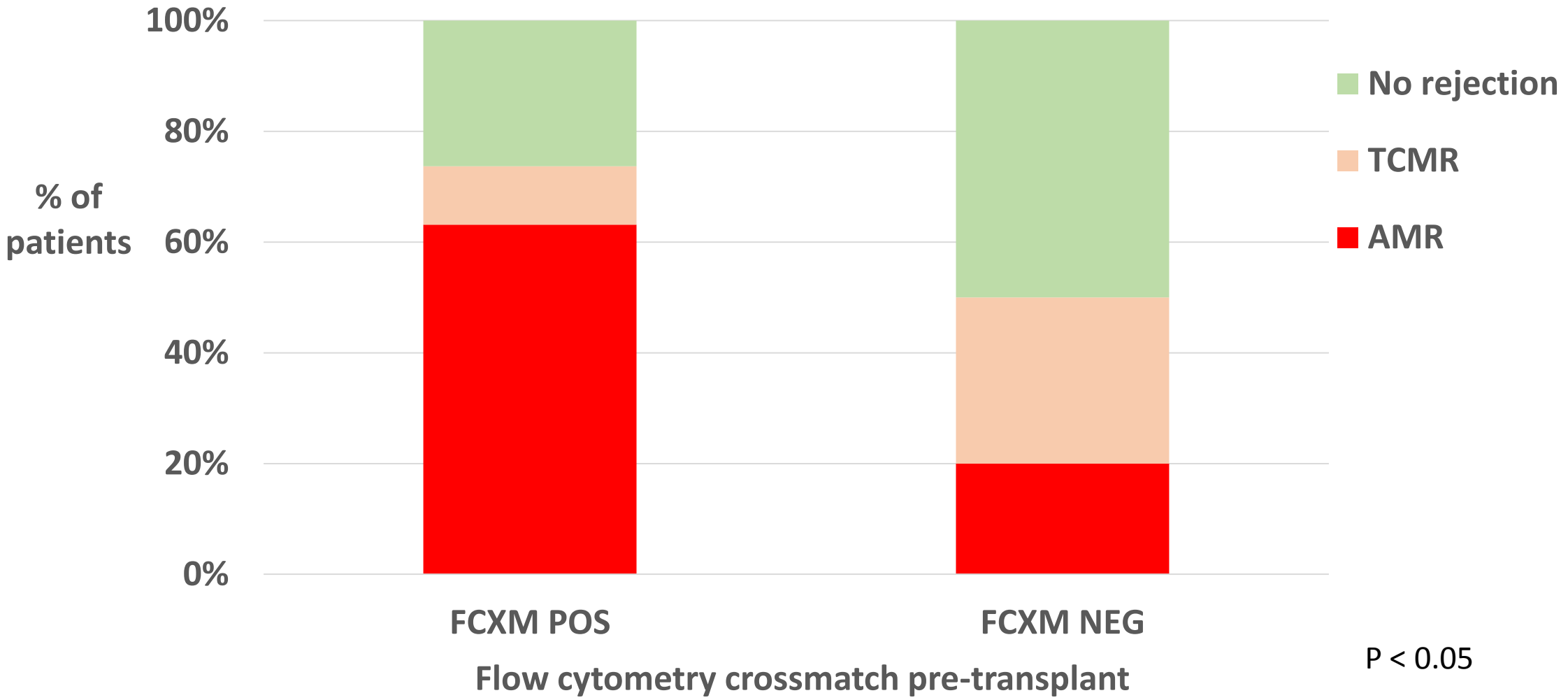
Recipient and transplant characteristics

	N=30
Age; years (mean ± SD)	45 ± 11.2
Female gender n (%)	17 (57)
Previous transplant n (%)	21 (70)
Live donor n (%)	13 (43)
Plasma exchange desensitisation n (%)	12 (40)
Induction agent n (%)	
IL-2 antagonist	11 (37)
Lymphocyte depleting	19 (63)

		N=30
Cumulative MFI (mean ± SD)		
At time of transplant		4221 (± 686)
Peak MFI		9011 (± 1204)
Current DSA n (%)		22 (73)
HLA mismatch n (%)	1 – 2	9 (30)
	≥ 3	2 (7)
	Any DR	19 (63)
X-match positive n (%)	CDC	0
	B FC XM	17 (57)
	T FC XM	10 (33)
	Any FC XM	19 (68)

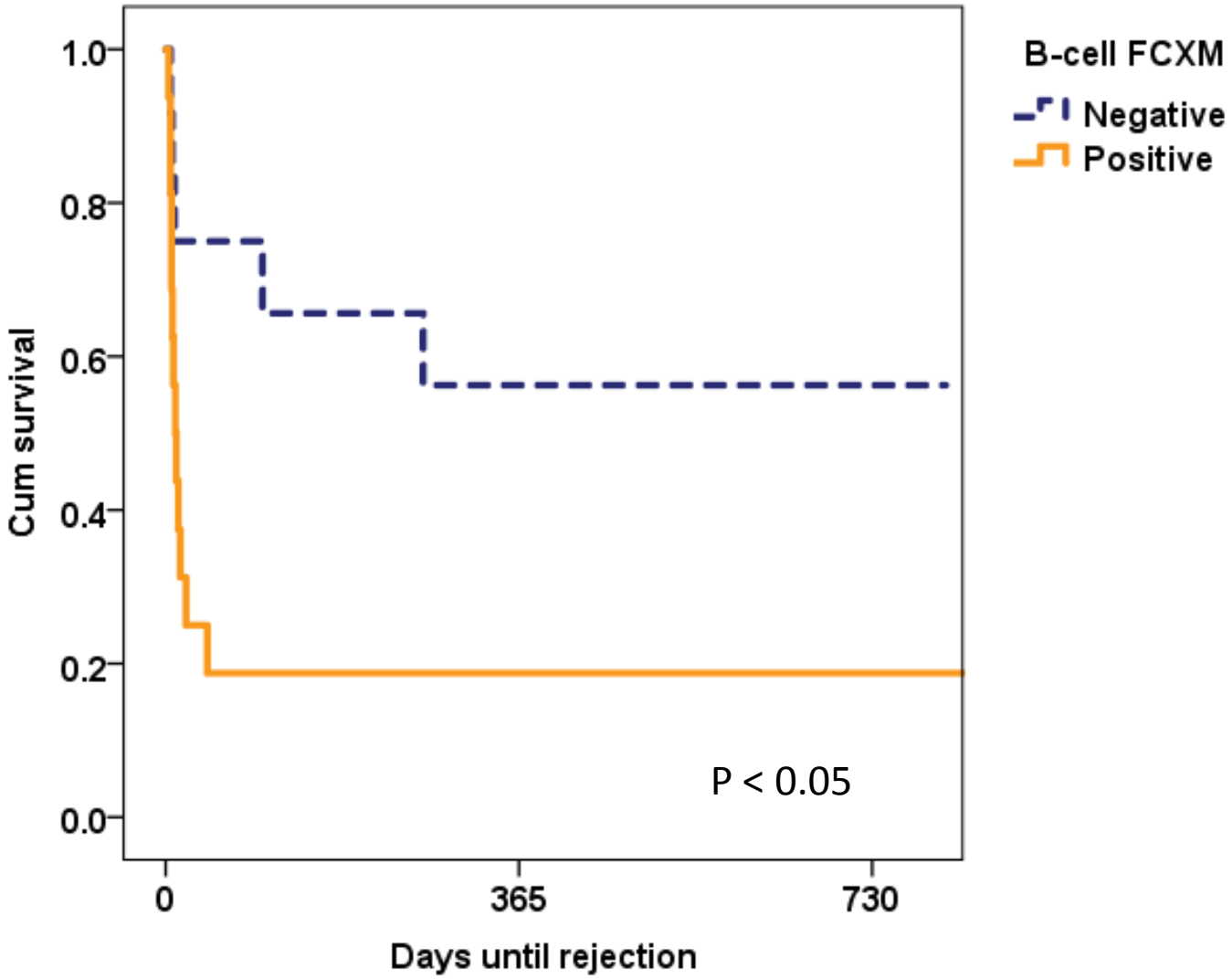
Positive flow cytometry XM is associated with rejection

Mean follow up duration: 2.5 years



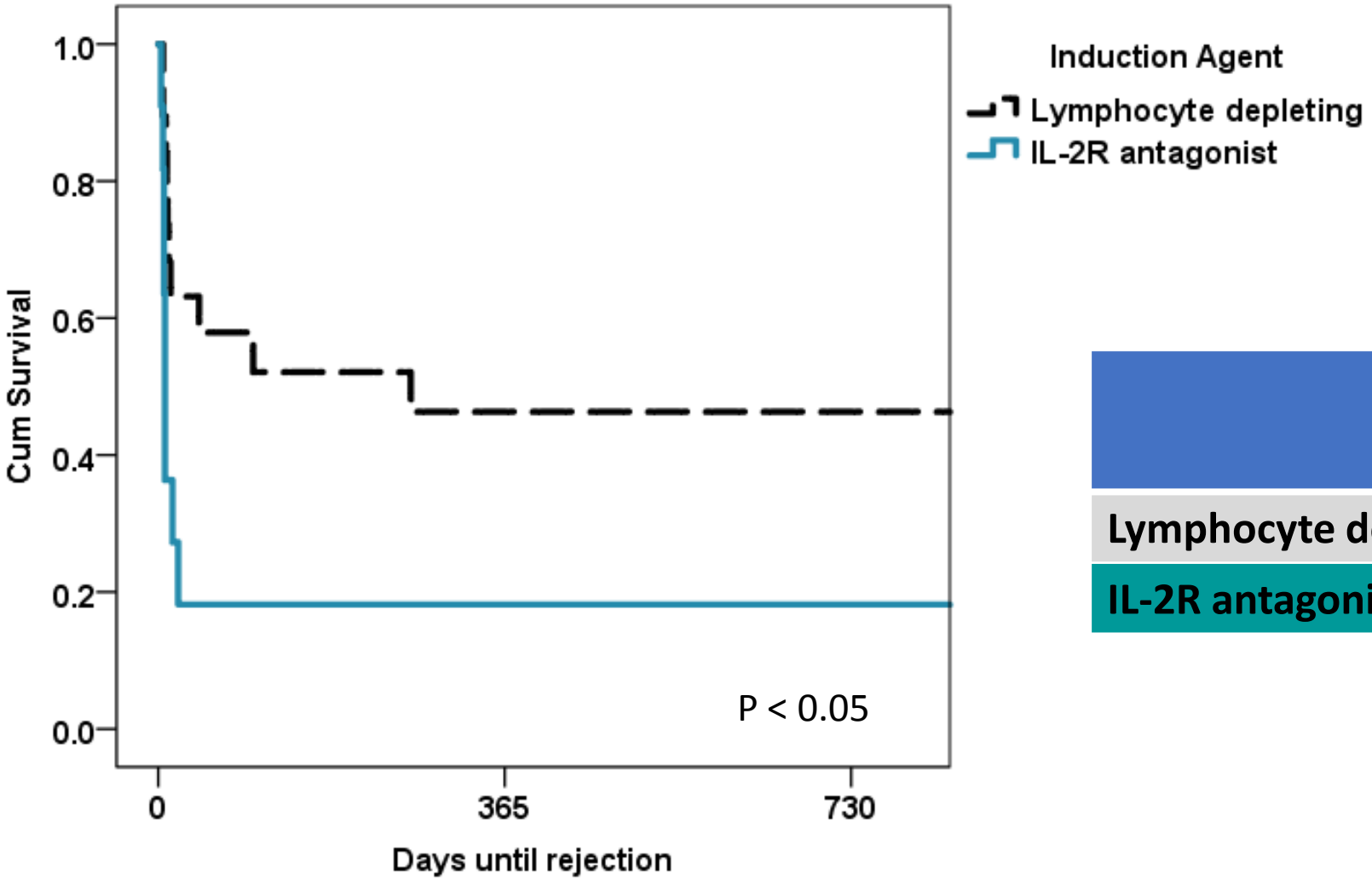
$P < 0.05$

B-cell positive FCXM increases risk of rejection



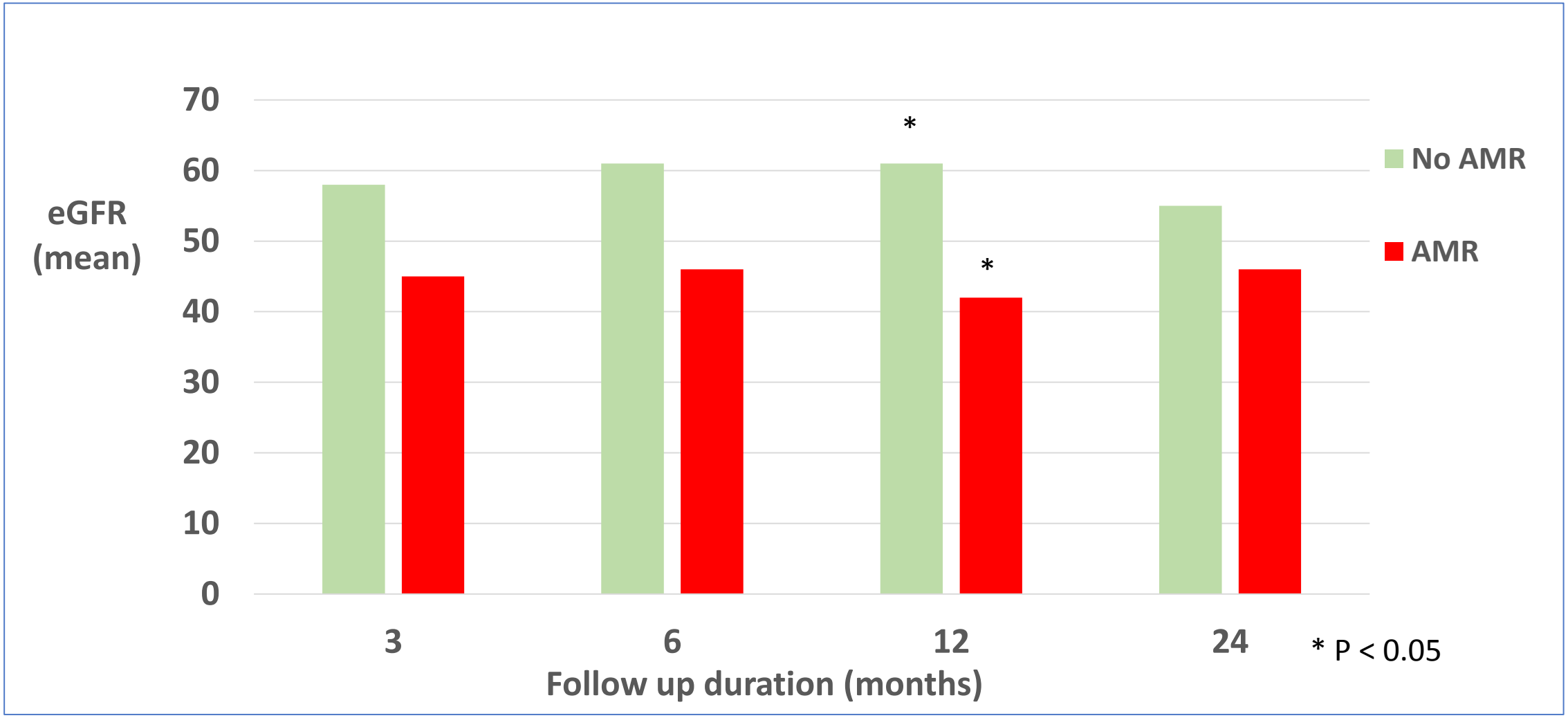
	Rejection free
	1 year
B CFXM NEG	57%
B CFXM POS	19%

Induction agent and risk of rejection

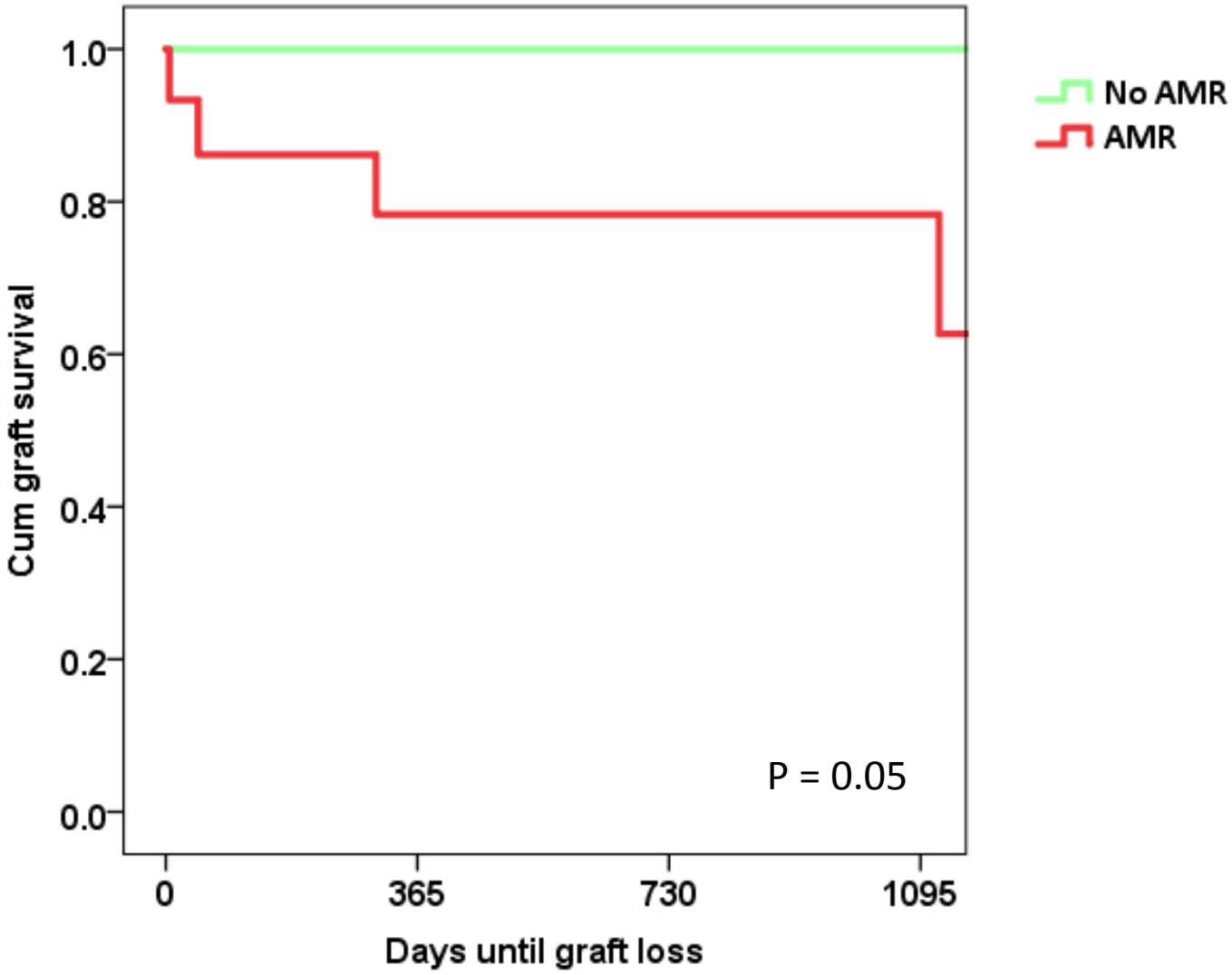


	Rejection free
	1 year
Lymphocyte depleting	45%
IL-2R antagonist	18%

Effect of AMR on graft function



Graft survival



	Graft survival
	1 year
Whole cohort	89%
No AMR	100%
AMR	78%

HLA incompatible kidney transplant in Edinburgh

- B cell positive flow cytometry crossmatch predicts early AMR
- Risk of rejection within the first year post transplant: 65%
- Increased risk of rejection following induction with IL-2R antagonists compared to Lymphocyte depleting agents

However:

- Mean eGFR 53ml/min/1.73m^2 at 1 year

  eGFR inferior in those that developed AMR compared to those who did not
- 1 year graft survival 89%
- 1 year patient survival: 96%

BFCXM and Induction therapy; risk of AMR