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# PERFORMANCE AND OUTCOME OF PIONEERING KIDNEY TRANSPLANTATION IN A RESOURCE-CONSTRAINED SETTING IN SOUTHEAST NIGERIA

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## INTRODUCTION

- Kidney transplantation is the optimal treatment for improving survival and quality of life for patients with end-stage kidney disease.
- Kidney transplantation is developing in Nigeria. There was no kidney transplant surgery and acute care services in Southeast Nigeria until 2017 when our institution commenced such services.

## OBJECTIVES

- To obtain the transplant conversion rate in the study center
- To enumerate the short and long term complications of kidney transplantation in the study center.
- To obtain the graft and patient survival over a six year period.

## MATERIALS AND METHODS

- This was a retrospective cohort review of the of patients referred to the kidney transplant unit from January 2017 to December 2022
- Socio-demographic data, duration on dialysis, aetiology of kidney disease, number of patient transplanted, acute complications and outcome of the transplantation were retrieved.
- Data was analyzed using SPSS version 21 (IBM NY)

## RESULTS

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PATIENTS

Parameter	Number (%)
Sex- Male	71 (76%)
Female	22 (24%)
Mean GFR	13 mls/min/.73m <sup>2</sup> (±4.51)
Median Systolic Blood Pressure (mmHg)	156 (120-190 mmHg)
Median Diastolic Blood Pressure (mmHg)	80 (55-110) mmHg
Aetiology of End-stage renal disease	
Chronic glomerulonephritis	30 (38%)
Hypertension	28 (36%)
Diabetes mellitus	14 (23%)
Unknown	10 (11%)
Polycystic kidney disease	6 (6%)
HIV-Associated Nephropathy	4 (4%)
Sickle cell nephropathy	1 (1%)

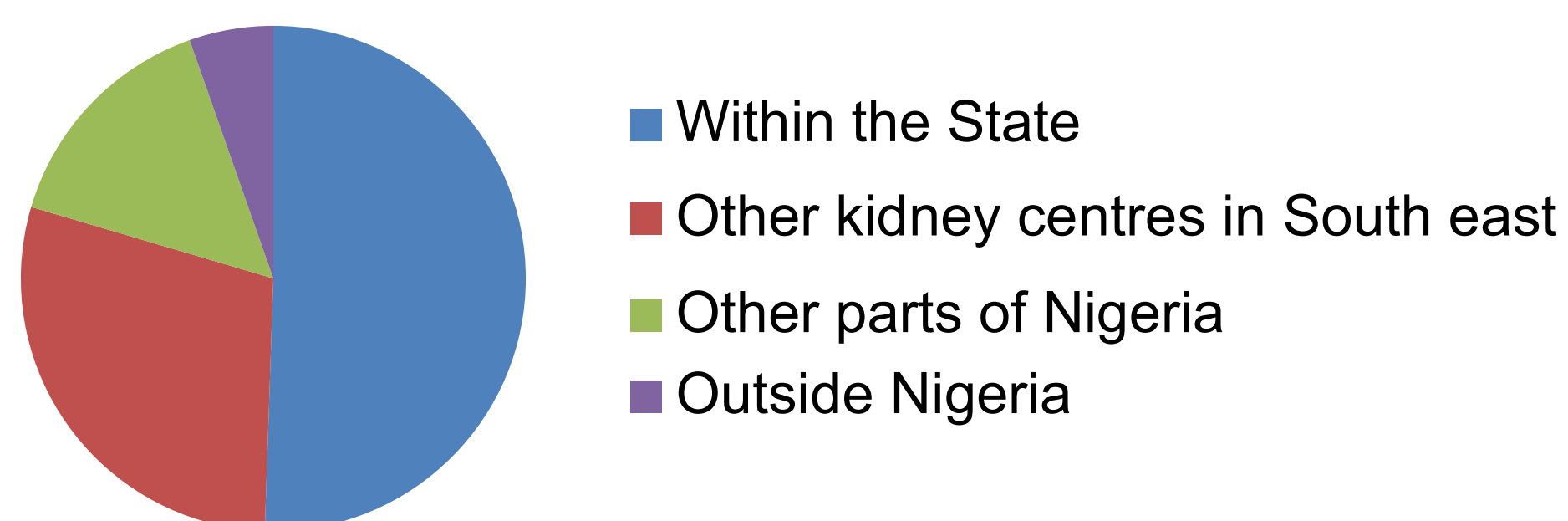


Figure 1: Sources of referral of patients for kidney transplantation

- Ten patients (11%) underwent kidney transplantation while 83 (89%) patients were not transplanted for various reasons – financial (40%), donor incompatibility (20%), frail recipient (14%), Age > 70years (8%), HIV positive (5%) Hep B or C positive (5%), and lost to follow up (5%), others (3%).

Table 2: Clinical characteristics of patients who underwent kidney transplantation

Gender	Age (years)	Native kidney disease	Dialysis Vintage (months)	HLA mismatch	CMV Sero status	EBV Sero status
Male	40	Hypertension	23	2/6	D+/R+	D-/R+
Male	65	ADPKD	2	2/6	D-/R-	D-/R-
Male	39	Chronic Glomerulonephritis	11	3/6	D-/R+	D+/R+
Male	42	Hypertension	5	2/6	D-/R-	D+/R+
Male	32	FSGS	7	4/6	D-/R-	D-/R-
Male	48	Diabetes	3	2/6	D-/R-	D-/R-
Male	29	Unknown cause	8	4/6	D-/R-	D-/R-
Male	47	Diabetes	11	2/6	D-/R-	D-/R+
Male	51	Hypertension	18	3/6	D+/R-	D+/R+
Female	18	c-ANCA Vasculitis	2	3/6	D-/R-	D+/R+

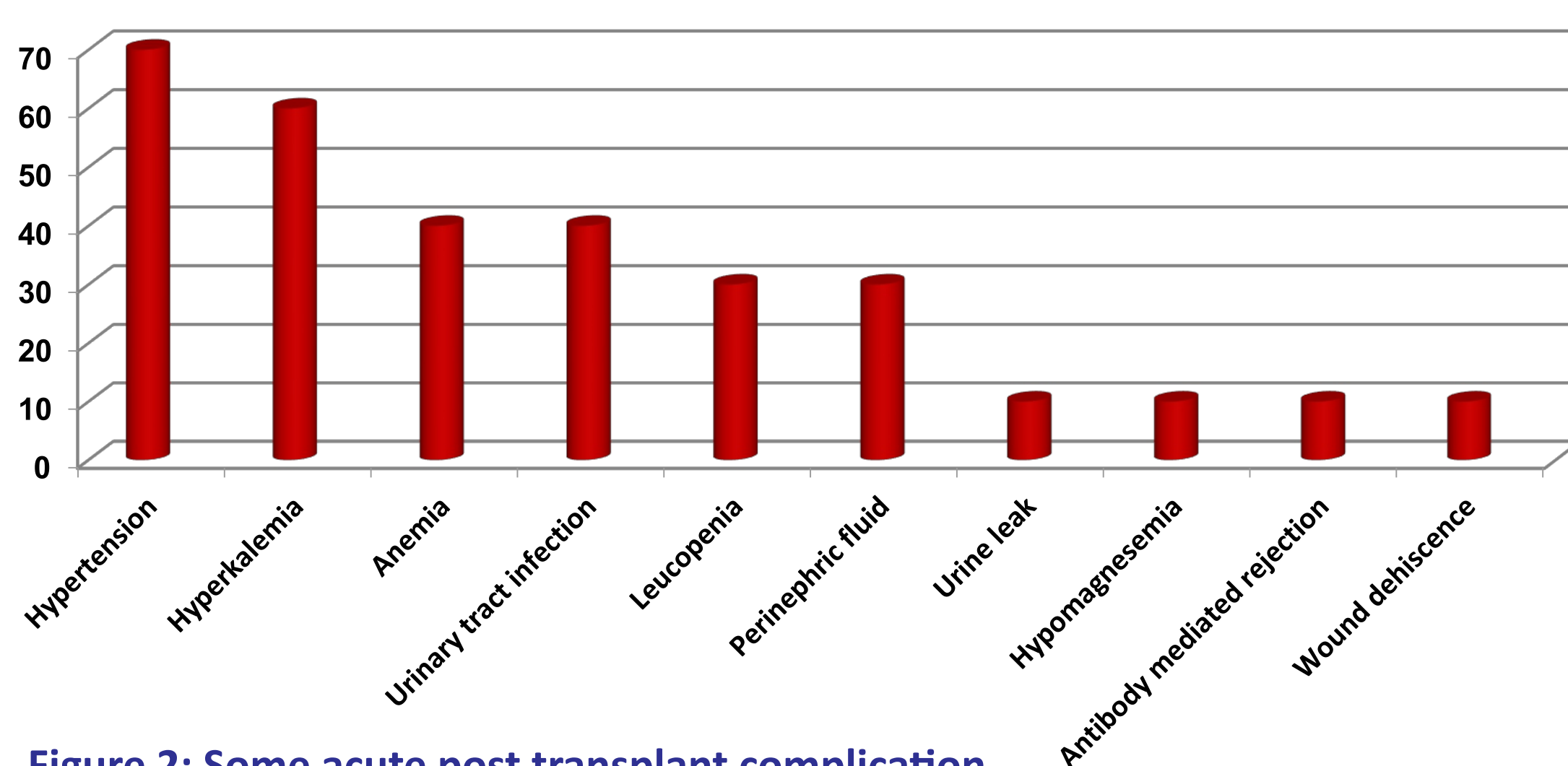


Figure 2: Some acute post transplant complication

## LONG TERM COMPLICATIONS

- Long term complications seen in our series include
- cytomegalovirus infection (20%)
- Death (20%)
- Chronic allograft rejection (20%) and
- Recurrent native disease (10%).

## GRAFT AND PATIENT OUTCOME

- The 1 year and 5 year death-censored graft survival for patients is 95% and 78% respectively.
- The three months, one year, three years and five year patient survival in our program is 100%, 90%, 80% and 80% respectively

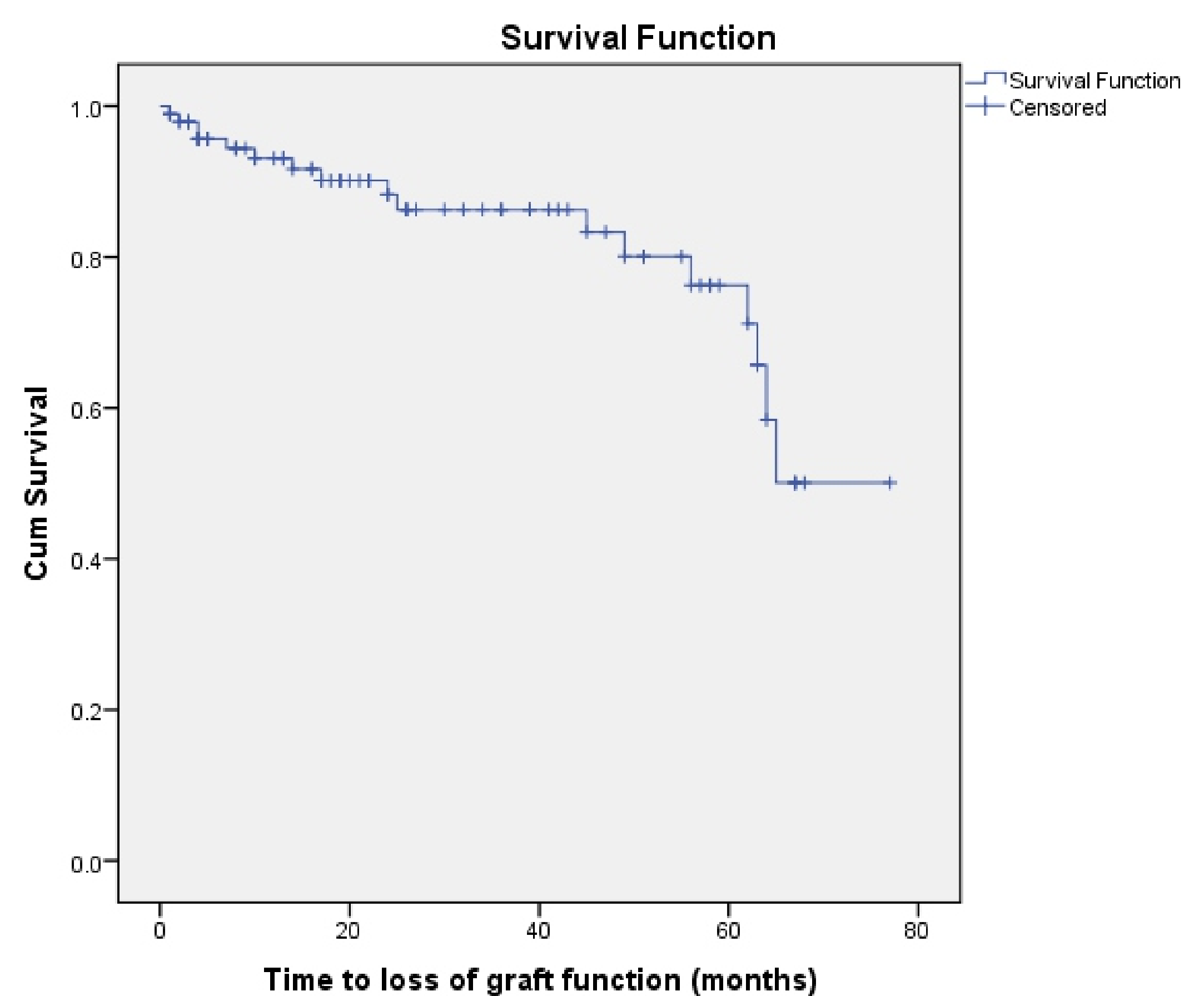


Figure 3: Kaplan-Meier curve showing cumulative survival of the graft over the time indicated

## DISCUSSION

### Main findings

- The transplant conversion rate was low
- The acute complications were treatable in most cases
- The survival of patient and graft are comparable to other centers.

## OTHER FINDINGS

- The socio-demographic and clinical characteristics of these patients mirror that of CKD population in Nigeria with majority of males, young age group with chronic glomerular disease and hypertension as the leading cause of end-stage renal disease
- The dialysis duration (dialysis vintage) in this cohort is 2-23 month with 80% of the patients within the first year of commencement of dialysis
- The one-year, three year and five year graft and patient survival in our cohort is similar to that of earlier reports among Nigerians who transplanted within the country or outside and receiving post transplant care within the country
- Considering the small size of our cohort, it may be too early to compare but this preliminary data here could suggest a possible non inferior outcome of transplants done within Nigeria in comparison to that done in some other developing world.
- More data are needed to support or refute this claim

## CONCLUSION

- The transplant conversion rate was low and draws attention to the selection criteria.
- Acute post operative complications were treatable in most cases.
- Patient and graft outcomes appears similar with other centres in Nigeria but our five year outcome appear to differ from that of developed countries
- Improved access to transplantation is possible with improvement in health care financing and funding of kidney transplant services by health insurance or government and improvement in technology.

## LIMITATION

- The number of patient who underwent kidney transplant surgeries were not appreciable in number to allow for statistical inferences on association between outcomes and some variables reported in this study.
- Despite this, the preliminary descriptive findings in the study can contribute to existing literature.