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# Infections with Tuberculosis and Cytomegalovirus among Kidney Allograft Recipients in a Single Centre in Kenya

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## Introduction

- The risk of infections in kidney transplant recipients is determined by the interaction between the epidemiological exposures and the net state of patients' immunosuppression. The infections include *Tuberculosis* (TB) and *Cytomegalovirus* (CMV).
- The current study reported the documented infections with CMV and TB among kidney allograft recipients in the Kenyatta National Hospital in Kenya between 2010 and 2019.

## Methods

- This was a retrospective descriptive study which entailed review of medical records of kidney allograft recipients at Kenyatta National Hospital between 2010 -2019.
- The extracted data included, age at transplantation, sex, haemodialysis (HD) vintage, immunosuppressive medications used, human leukocyte antigens (HLA)-A,-B and –DRB1 matches, documentation of infections with TB and CMV, allograft dysfunction and the outcomes.
- Data analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 20.0.

## Results

**Figure 1: Recipients who got TB/CMV**

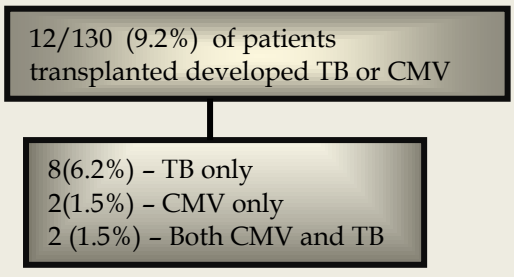


**Table 1. Description of the twelve recipients with TB/CMV**

| Description | | Statistic |
|---|---|---|
| Age (year) | | |
| | Median (IQR) | 30.5 (21.8 - 48.0) |
| HD vintage (month) | Median (IQR) | 20.0 (12.8 – 34.5) |
| Sex | Male n(%) | 10 (83.3) |
| | Comorbidity | |
| | Hypertension n(%) | 12(100.0) |
| | Chronic glomerulonephritis n(%) | 7(58.3) |
| | Diabetes n(%) | 4(33.3) |

CMV Cytomegalovirus, IQR interquartile range, HD haemodialysis, TB Tuberculosis

The number of patients who developed TB/CMV and their characteristics are denoted in the **Figure 1** and **Table 1** respectively.
Donor-recipient HLA –A, -B and –DRB1 matches were:

- a single match in 1(8.3%) recipient,
- two matches in 3(25.0%),
- three matches in 6(50.0%),
- four matches were found in 2(16.7%) recipients.

All the recipients received induction medication with methylprednisolone and were on mycophenolic acid analogues.

- Four (33.3%) recipients received induction with basiliximab.
- Five (41.7%) were on tacrolimus while 7(58.3%) were on cyclosporine A.

Eleven (91.7%) recipients had suffered from at least one episode of allograft dysfunction.
Of the 12 recipients:

- 7(58.3%) were alive with functional allografts,
- 3(25.0%) were alive with failed allografts and were back to HD,
- 1(8.3%) was deceased with a functional allograft
- 1(8.3%) was deceased after failure of the allograft.

## Conclusion

Infections with TB and CMV are common among kidney allograft recipients in this setting. This seems to be common among the patients who received basiliximab for induction and those who present with allografts dysfunction. It is plausible that these patients receive high immunosuppression as treatment for allograft rejection which might favour reactivation or reinfections with TB and CMV. Structured surveillance for these infections is necessary in kidney allograft recipients in this setting where these infections are prevalent.