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Cytomegalovirus DNAemia Patterns in Mismatched Solid Organ Transplant Recipients: A Retrospective Cohort Study.

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Background

- CMV D+/R- solid organ recipients remain at risk of CMV disease after completion of prophylaxis.
- Patterns of CMV replication after prophylaxis are unknown.
- CMV disease is associated with adverse outcomes, mortality and graft loss.
- The study center monitors plasma CMV viral load after prophylaxis (surveillance after prophylaxis-SAP) in all CMV D+/R- SOTR's weekly for 8 weeks.

Methods

- Single centre, retrospective cohort study.
- We included all CMV D+/R- SOTR's from 2003-2017.
- CMV post prophylaxis DNAemia pattern by organ.
  - **Pattern 1: No DNAemia.**
  - **Pattern 2: One epidose of DNAemia.**
  - **Pattern 3: Recurrent DNAemia.**
- Association between CMV DNAemia pattern and 5-year mortality was explored by Cox regression analysis.

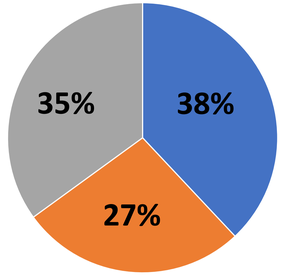
Results

- We included 245 SOT recipients, 168 males (68%), median age: 50 years (41-58).

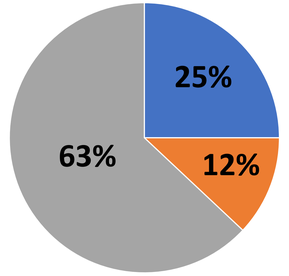
	Kidney n=116	Liver n=69	Heart n=18	Lung n=24	Other n=18
Pattern 1	53 (46%)	23 (33%)	9 (50%)	6 (25%)	4 (22%)
Pattern 2	27 (23%)	27 (39%)	2 (11%)	3 (12%)	6 (34%)
Pattern 3	36 (31%)	19 (28%)	17 (39%)	15 (63%)	8 (44%)
CMV disease	35 (30%)	32 (46%)	1 (5%)	12 (50%)	8 (44%)
CMV syndrome	33 (28%)	29 (42%)	1 (5%)	12 (50%)	5 (28%)
CMV end-organ	2 (2%)	3 (4%)	0	0	3 (17%)
Death at 5y	9 (3%)	4 (6%)	0	2 (8%)	1 (5%)

- Recurrent DNAemia, lung vs. non-lung recipients, 63% vs 32% p=0.003
- CMV disease occured in 88 (36%) subjects.
- Recurrent DNAemia was more common in patients with CMV disease, 56 vs. 22%, p<0.001.
- No association between recurrent DNAemia and 5-year mortality, HR 2.09 (0.37-11.73).

Whole cohort



Lung transplant recipients



Pattern 1 Pattern 2 Pattern 3

Conclusions

- One-third of overall CMV mismatched recipients develop recurrent CMV DNAemia.
- Recurrent CMV DNAemia occurs in two-thirds of mismatched lung recipients.
- Despite SAP, late-onset CMV disease was common. Recurrent CMV DNAemia was not associated with increased 5-year mortality.

References

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2. Boillat N, Pascual M, Venetz J, et al. Impact of a preemptive strategy after 3 months of valganciclovir prophylaxis in kidney transplant recipients. Transplantation. 2011;91(2):251-5.