Real-Life Application of QuantiFERON CMV: Insights from a One-Year Single-Center Study

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Context

Cytomegalovirus (CMV) disease remains a significant challenge in kidney transplantation. In recent years, new tools have emerged to address this issue. QuantiFERON-CMV (QFCMV), may help predict the anti-CMV activity of T lymphocytes. Notably, it could potentially reduce the duration of prophylaxis. However, evidence is weaker regarding its ability to predict treatment success in CMV infections.
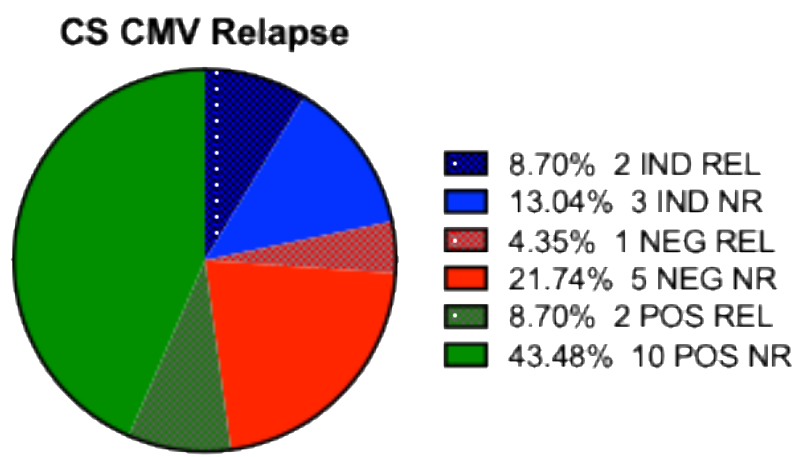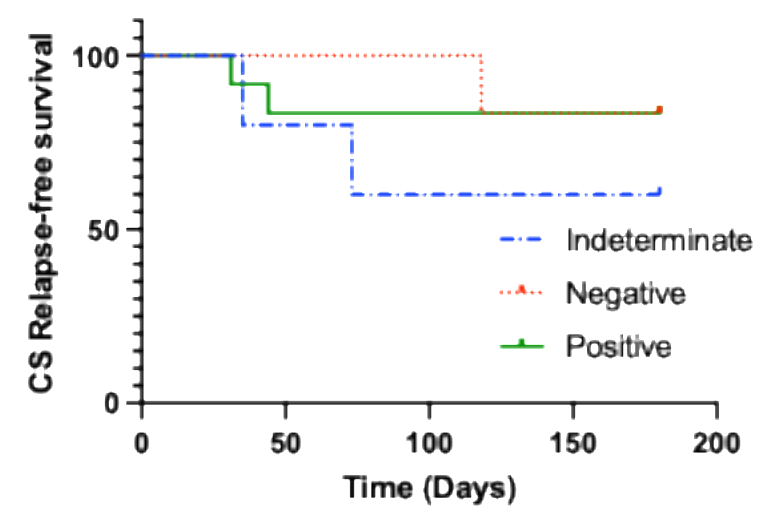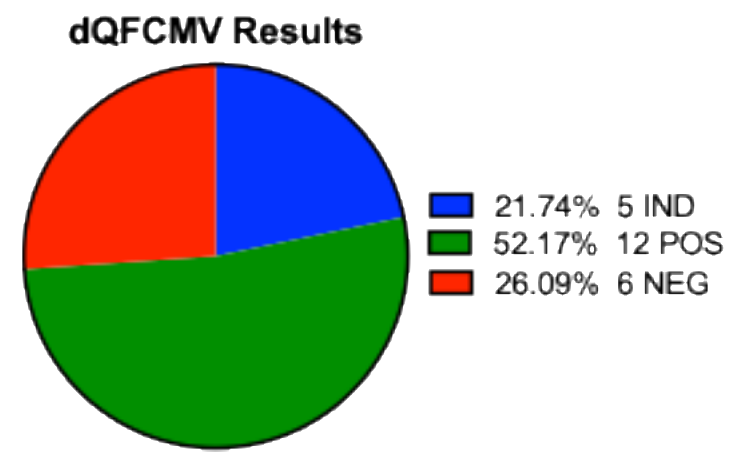
Methods

We conducted a retrospective study at Marseille Hospital, analyzing all QFCMV tests performed over one year. We divided them into two scenarios: prophylaxis (pQFCMV) and treatment of CMV infection or disease (dQFCMV). In the pQFCMV group, we primarily analyzed CMV infection events. In the dQFCMV group, we examined CMV clinically significant (CS) relapse following treatment discontinuation.

Results

Avril 2023 – Avril 2024
27 QFCMV : dQFCMV (n=23) / pQFCMV (n=4)

pQFCMV group : 3 POS/1 IND → 0/4 CMV infection

dQFCMV Results
- 21.74% 5 IND
- 52.17% 12 POS
- 26.09% 6 NEG

Kaplan-Meier: CS Relapse-free survival vs Time (Days)
- Indeterminate
- Negative
- Positive

CS CMV Relapse
- 8.70% 2 IND REL
- 13.04% 3 IND NR
- 4.35% 1 NEG REL
- 21.74% 5 NEG NR
- 8.70% 2 POS REL
- 43.48% 10 POS NR

Conclusion

QFCMV does not appear to be a perfect tool to predict CS CMV relapse. A positive result does not exempt a close follow-up to detect relapse as soon as possible. Furthermore, since most patients with a negative result are free from relapse, it raises questions about the utility of this tool. To be noted, indeterminate results could potentially represent the group most at risk. QFCMV could be useful as part of a body of evidence, but not as a standalone tool.