

ASSESSMENT OF SALIVA AS AN ALTERNATIVE MATRIX FOR THERAPEUTIC DRUG MONITORING OF HYDROXYCHLOROQUINE IN

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INTRODUCTION

Hydroxychloroquine (HCQ) blood levels are related to flare risk in systemic lupus erythematosus (SLE)¹. Saliva is an emerging alternative matrix that overcome the limitations of blood sample in drug monitoring², however, it has never been evaluated for HCQ. Thus, we assessed saliva as an alternative to blood sample for HCQ monitoring in SLE patients to predict blood levels.

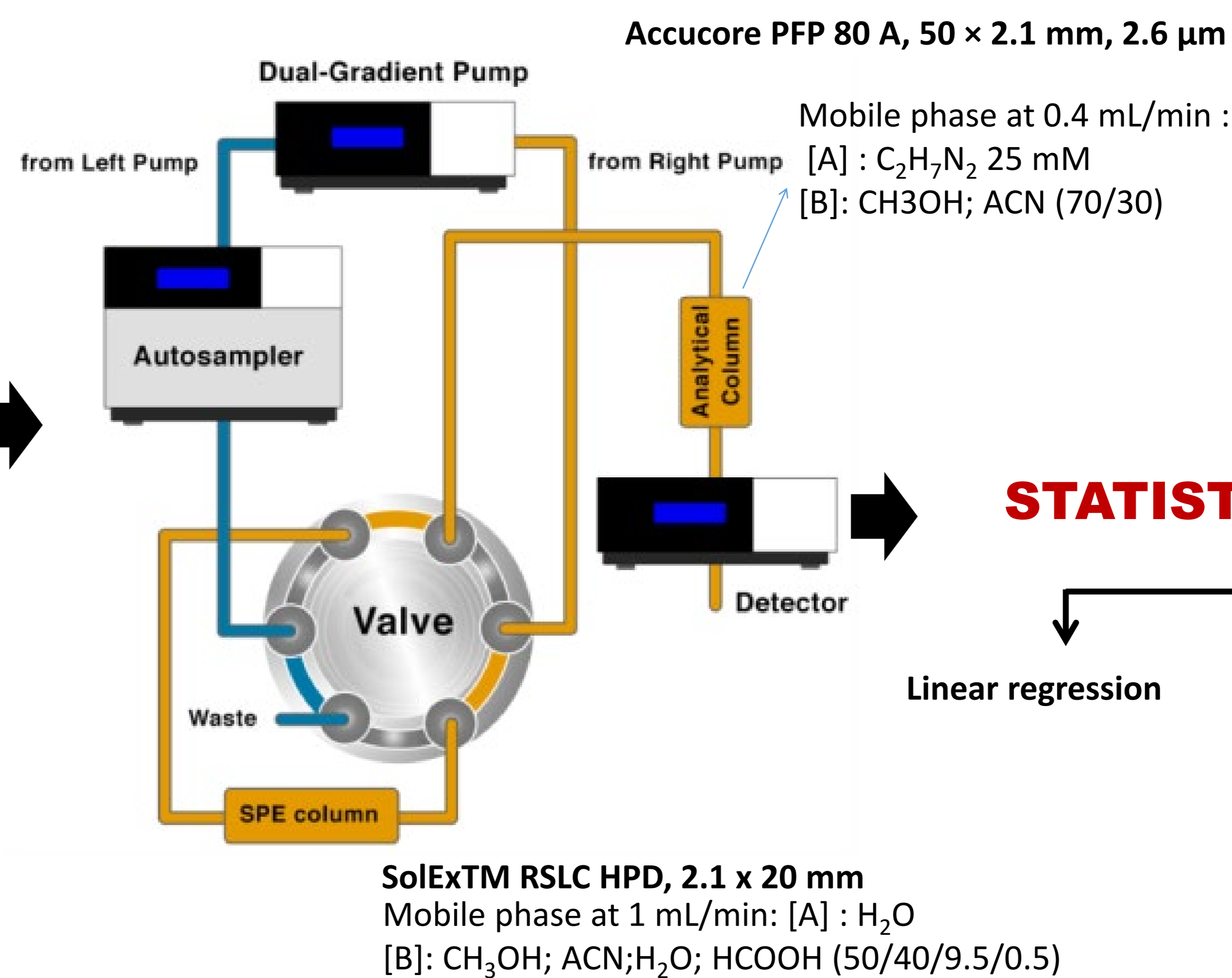
CONCLUSION

The findings open a window of opportunity to use saliva for the monitoring of HCQ levels in SLE patients, mainly in the clinical setting where blood sampling faces limitations, particularly in the pediatric and elderly population and those with reduced saliva such as Sjögren syndrome.

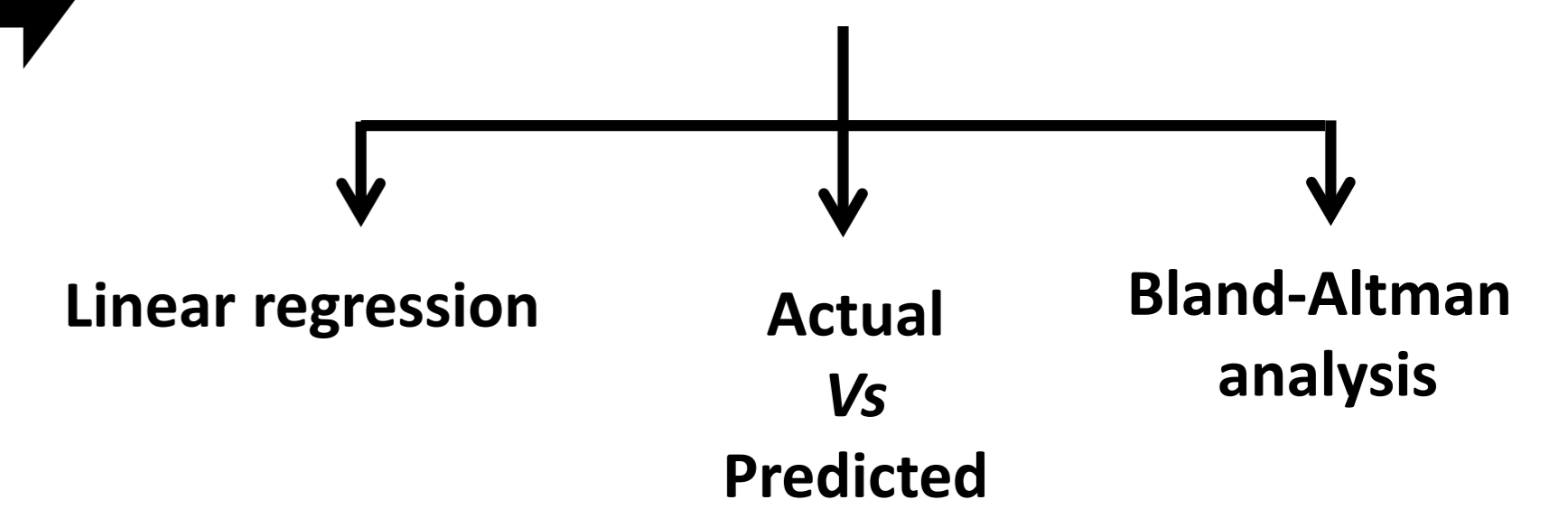
METHOD

SAMPLE PREPARATION

10 μ L of Saliva or blood
+
10 μ L of 500 ng/mL IS (HCQ-d4)
+
80 μ L of ACN
↓
Centrifuged 8000 rpm, 10 min
↓
30 μ L of supernatant + 90 μ L of H₂O

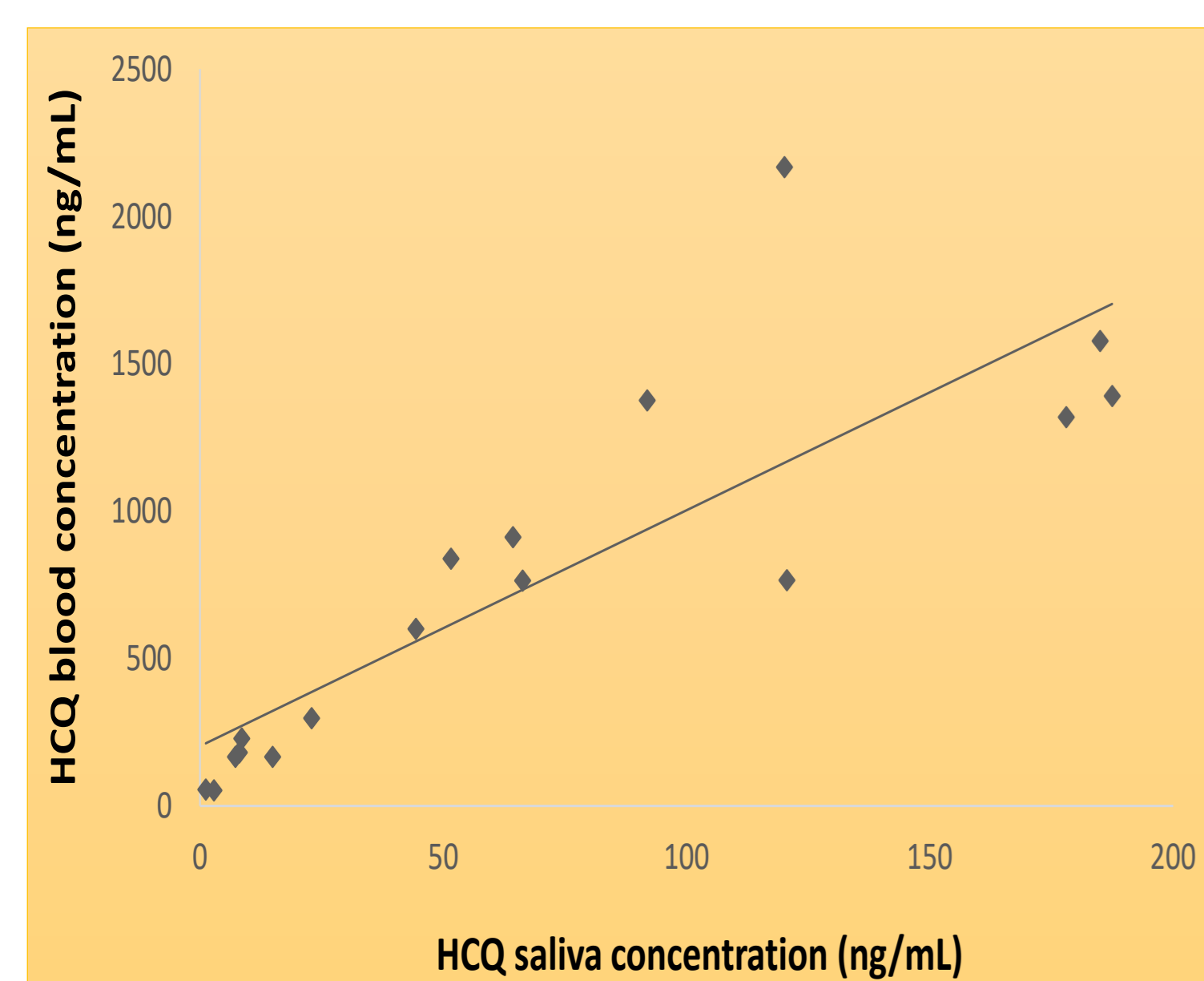


STATISTICAL ANALYSIS

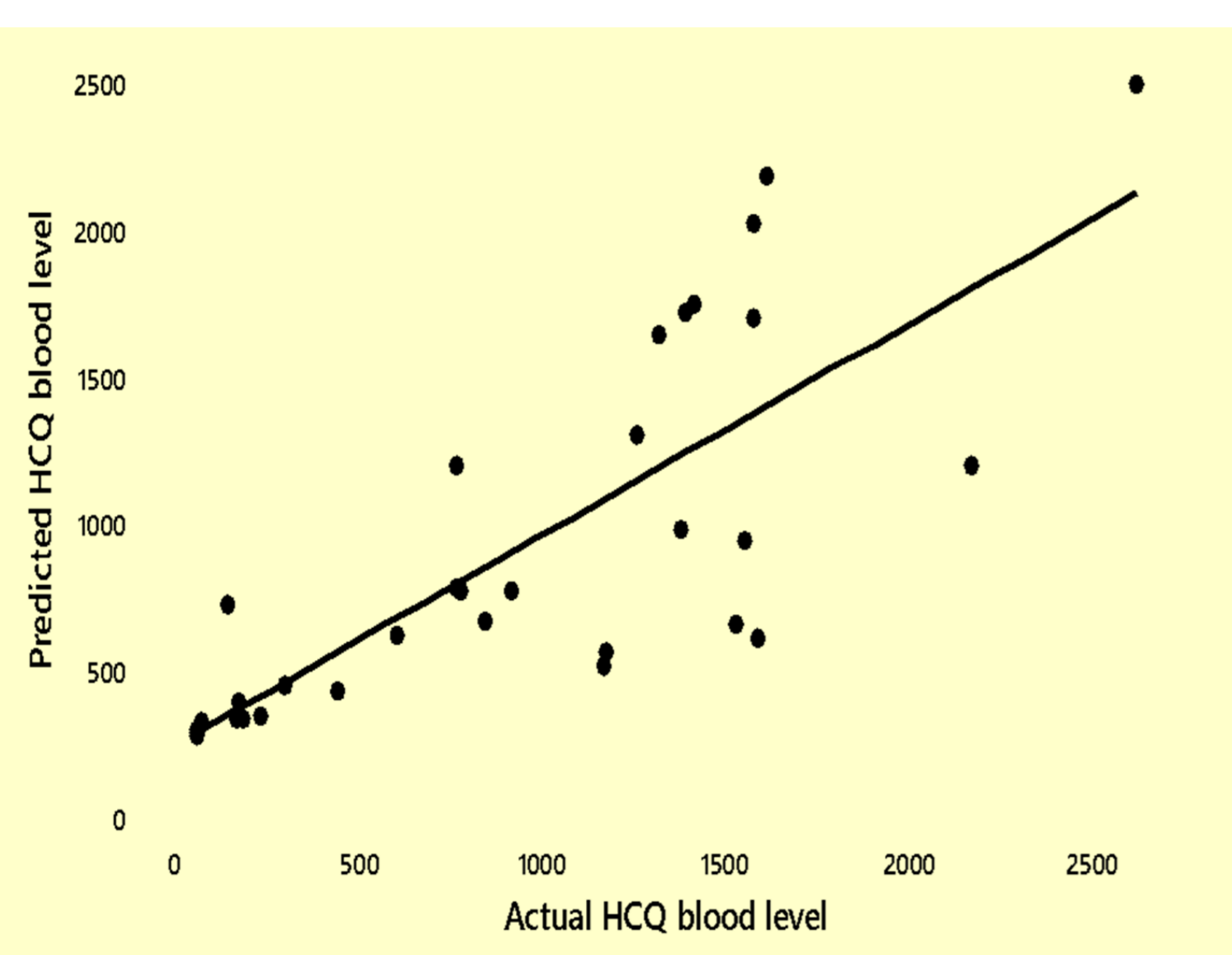


RESULTS

Linear regression HCQ saliva versus blood levels (n=17)



Predicted vs actual HCQ blood levels (n=33)



Bland-Altman plot for predicted vs measured HCQ (n=33)

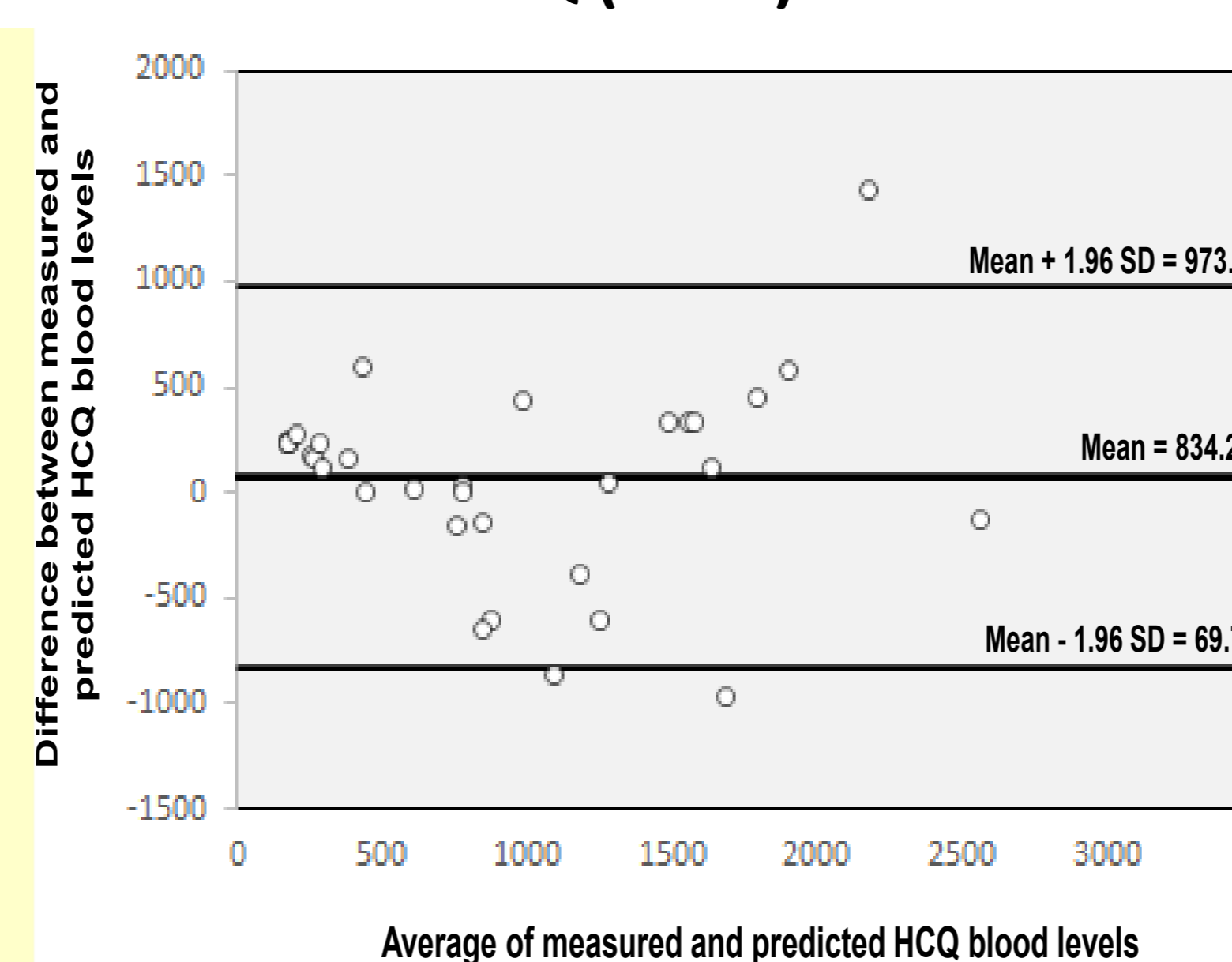


Table 1 – Percent of success in different clinical ranges for predicted hydroxychloroquine blood levels

Clinical ranges (ng/mL)	n	Fails	Succes	%
Nonadherent (0-200) ³	9	9	0	0%
Suboptimal (200-613) ⁴	4	0	4	100%
Optimal (\geq 613) ⁴	20	2	18	90%