

Effects of HBO₂ on nitric oxide generation in humans

- oral cavity produced NO should be considered when measuring orally exhaled NO during HBO₂.

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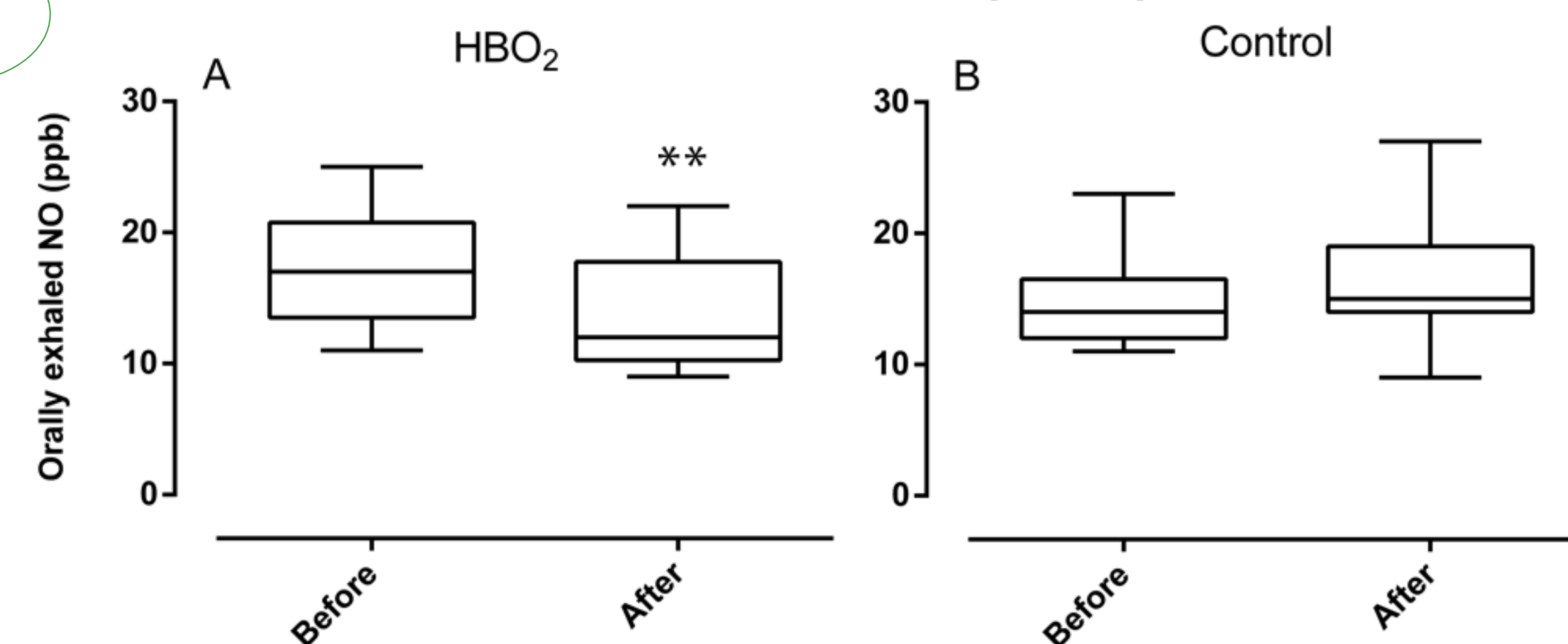
Conclusions

- orally and nasally exhaled nitric oxide (NO) decreased before / after HBO₂
- plasma NO₂ decreased during HBO₂
- cyclic-GMP increased during HBO₂
- NO from oral bacteria (in vitro) decreased with increasing O₂ levels
- HBO₂ has effects on both enzymatic (NOSs) and non-enzymatic (NO₃-NO₂-NO) NO-pathways.
- HBO₂ affects human NO generation differently in the airway and systematically.

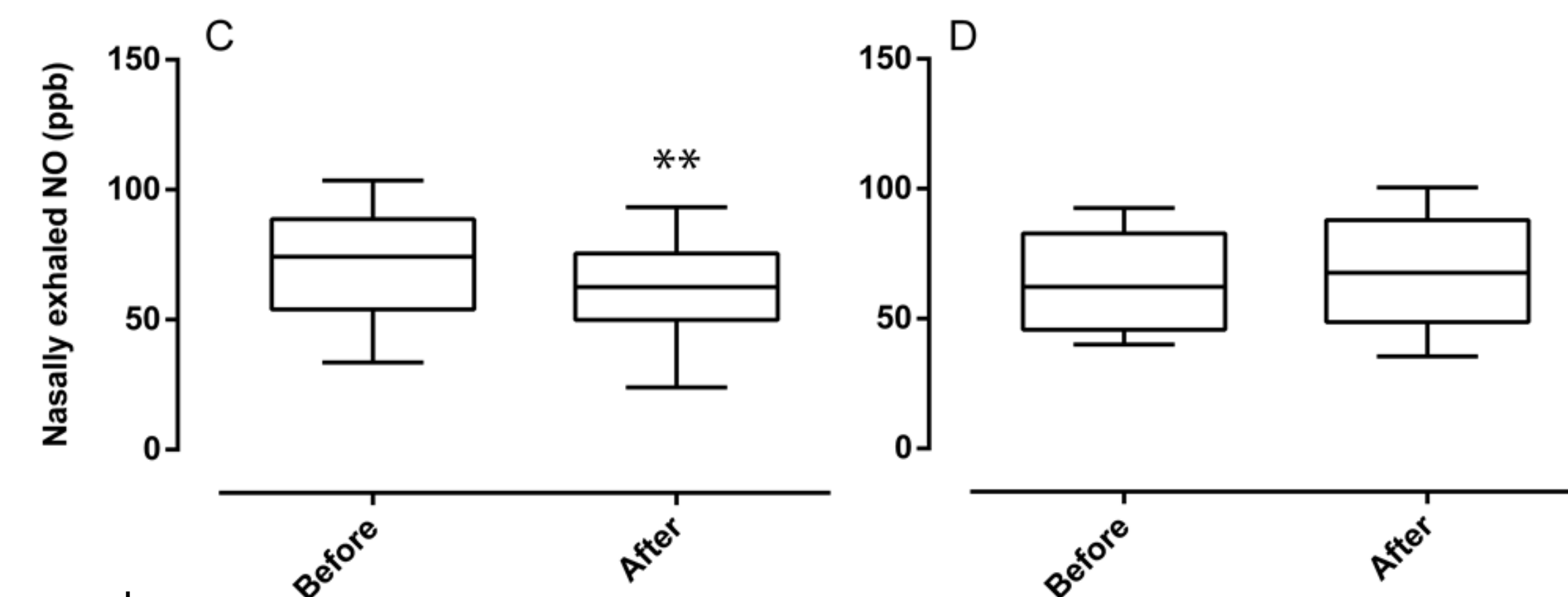
Results

A

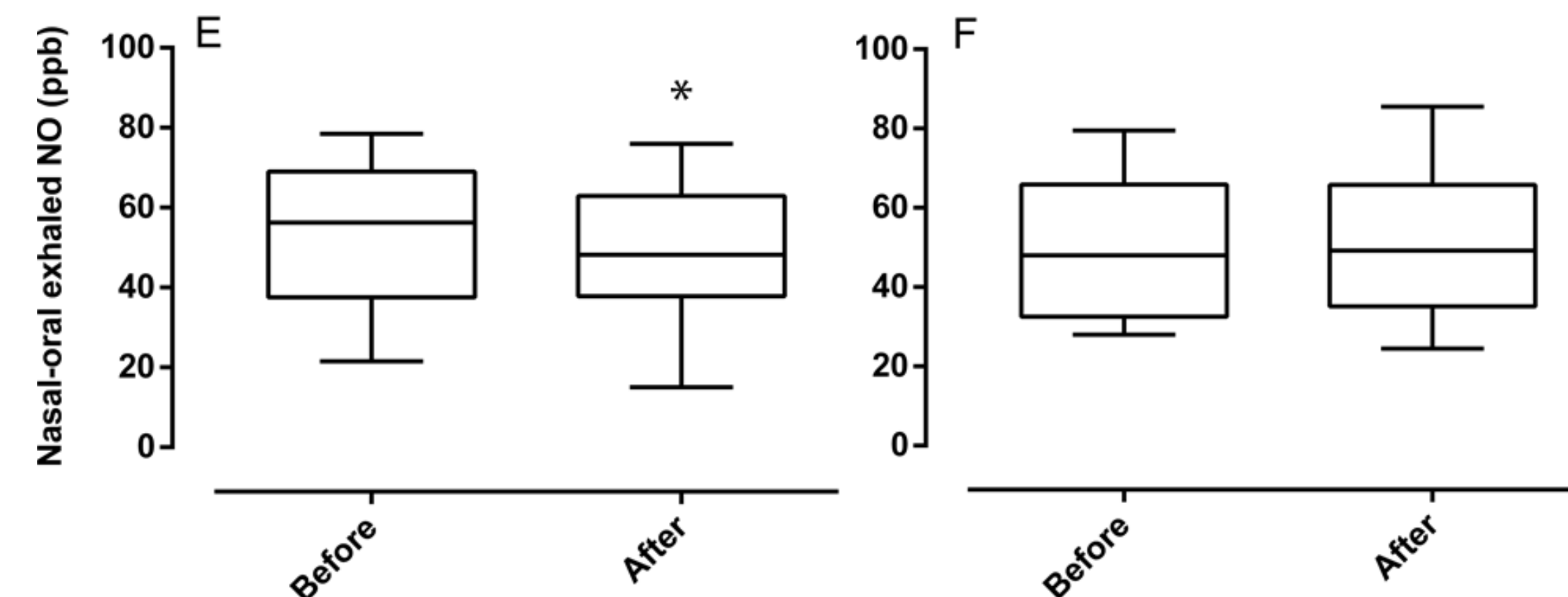
Oral exhaled NO (n=12)



Nasal exhaled NO



Nasal minus oral



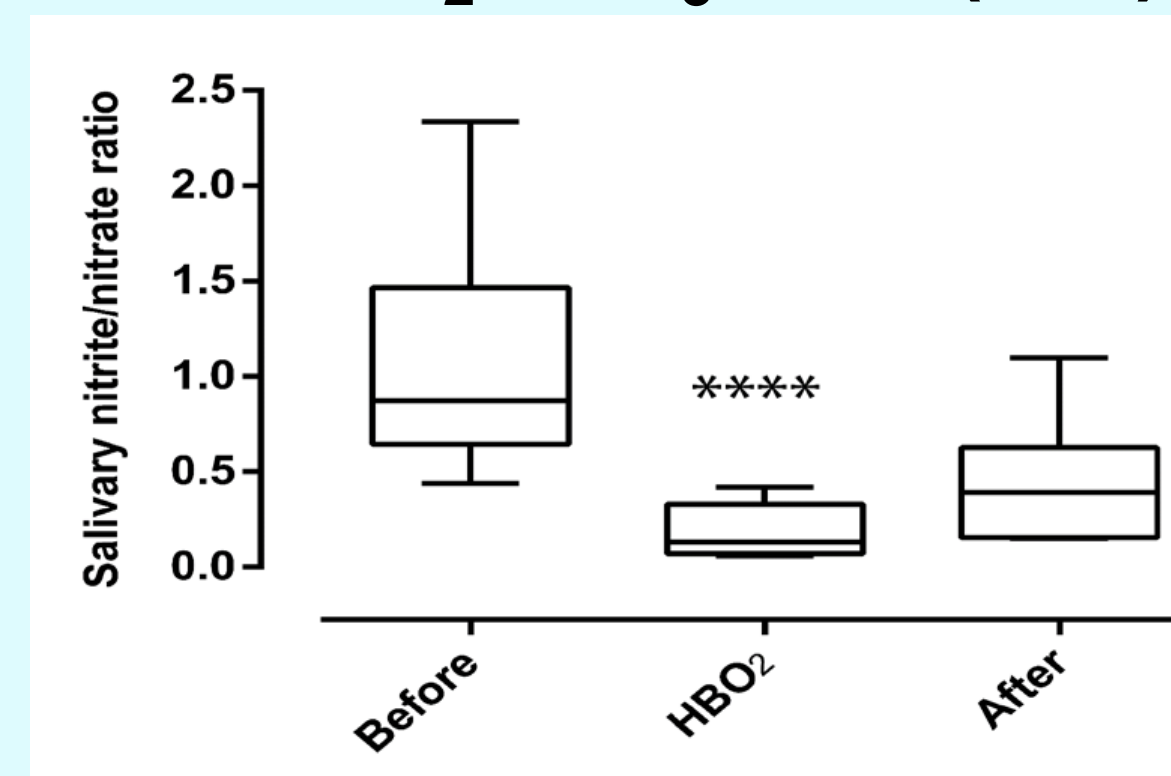
Introduction

Orally exhaled NO is a marker for inflammation and has been used to study O₂ lung damage after HBO₂ in several previous studies. Oral bacteria produce NO from salivary NO₃ and this NO is also included when measuring oral NO. Little is known of plasma levels of NO-surrogates and markers before, during and after HBO₂.

Aim

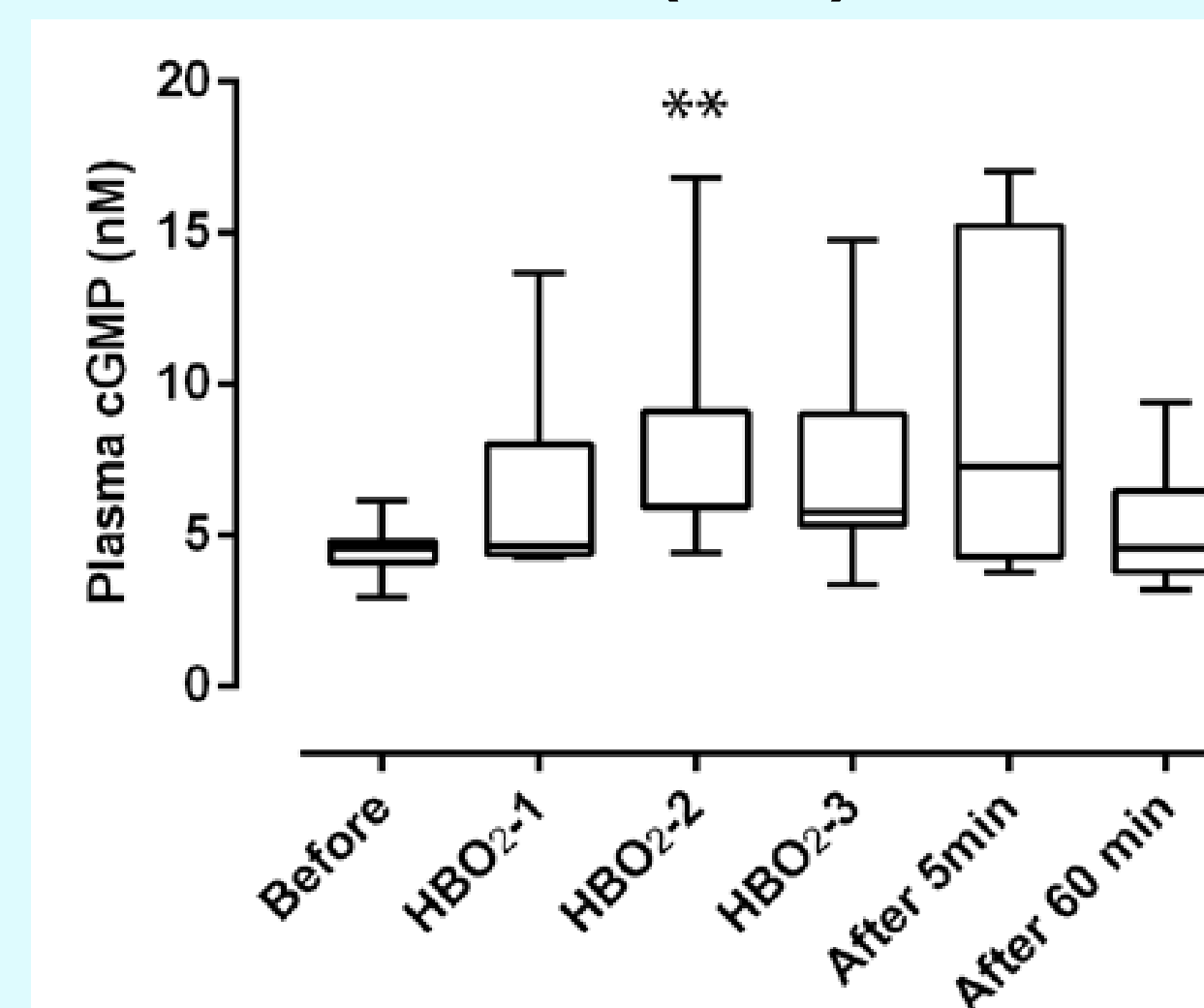
Examine normal human NO-levels during HBO₂, locally and systemically.

Saliva NO₂ / NO₃ ratio (n=7)

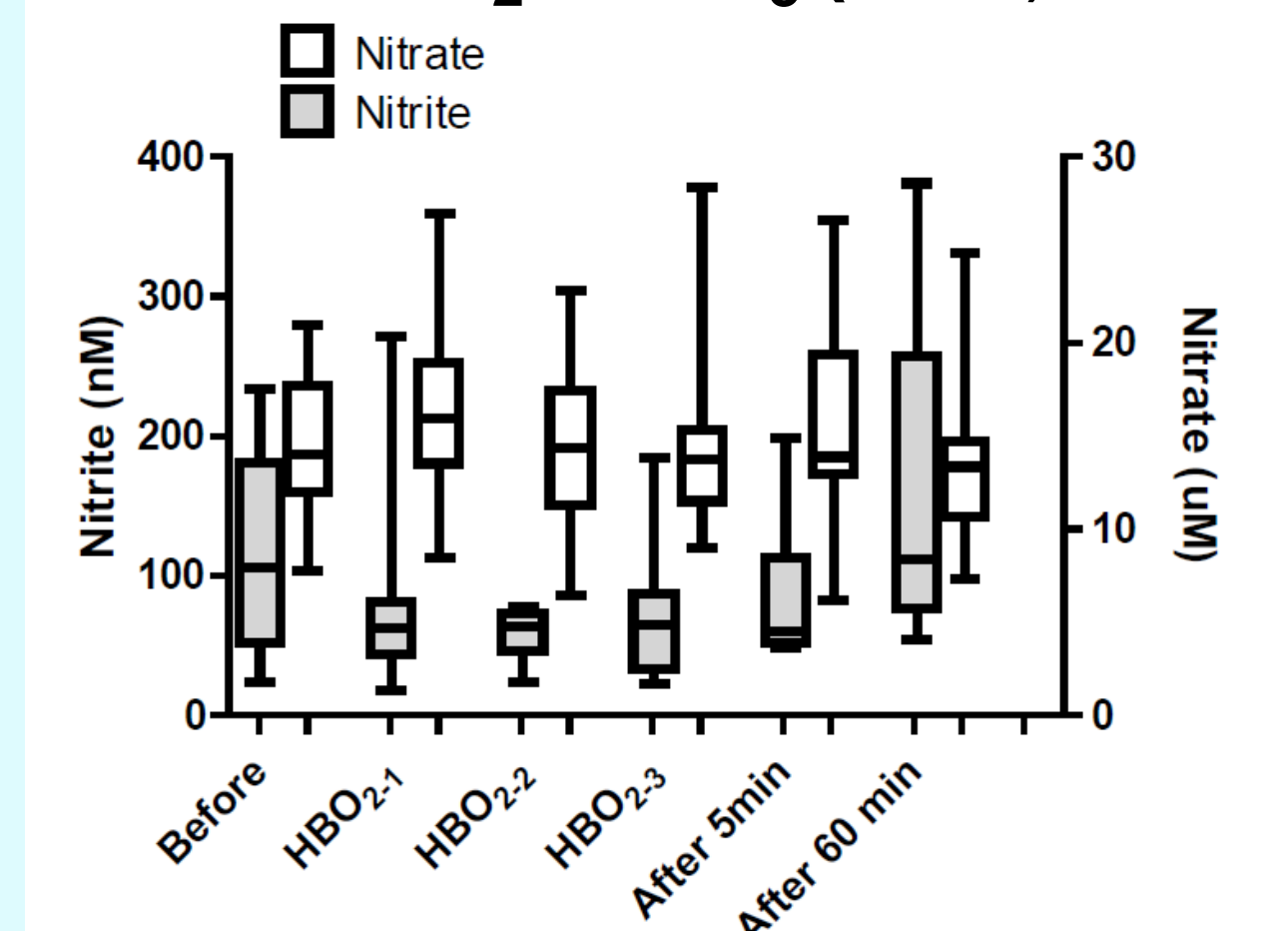


B

Plasma cGMP (n=7)



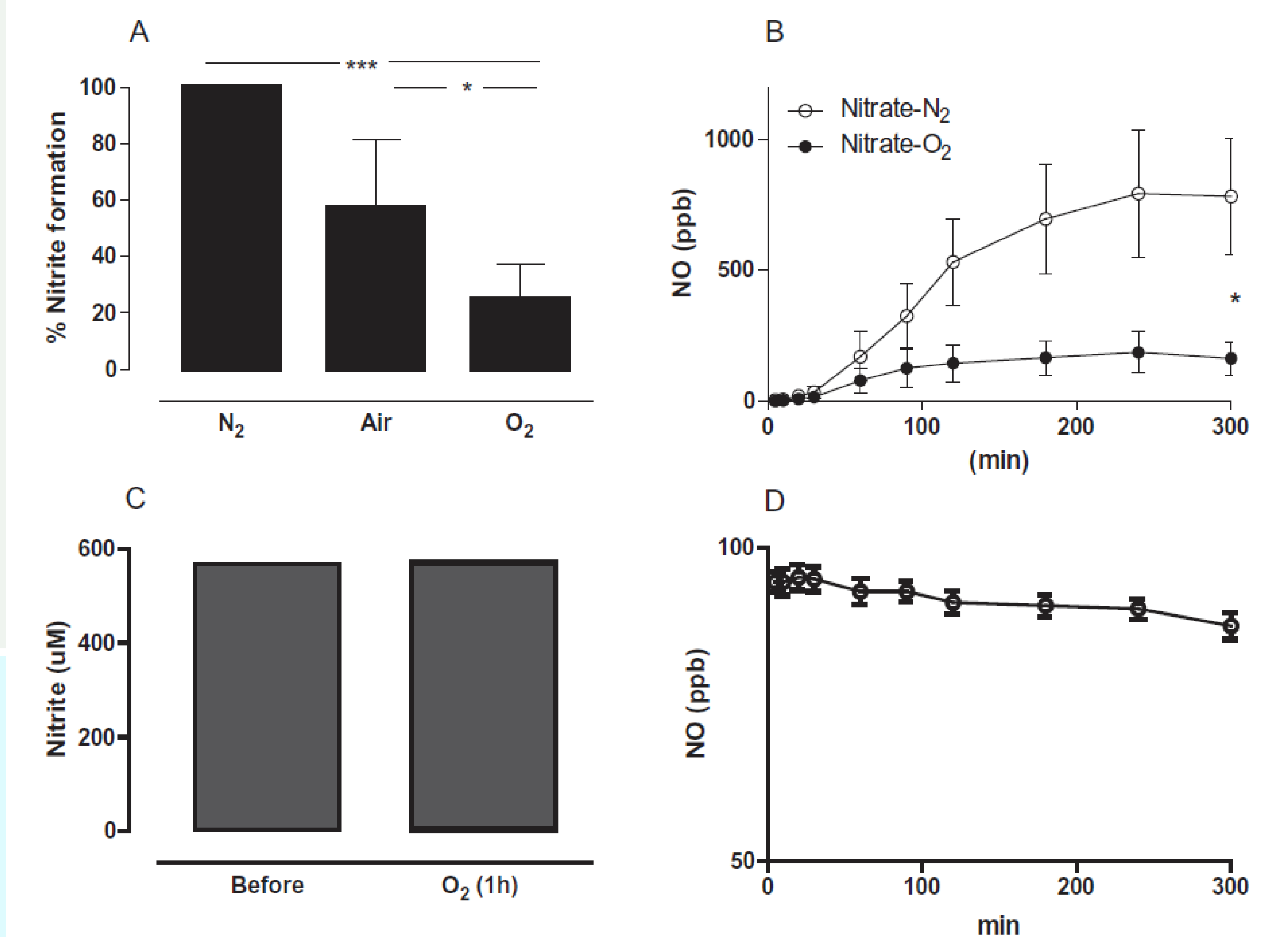
Plasma NO₂ & NO₃ (n=7)



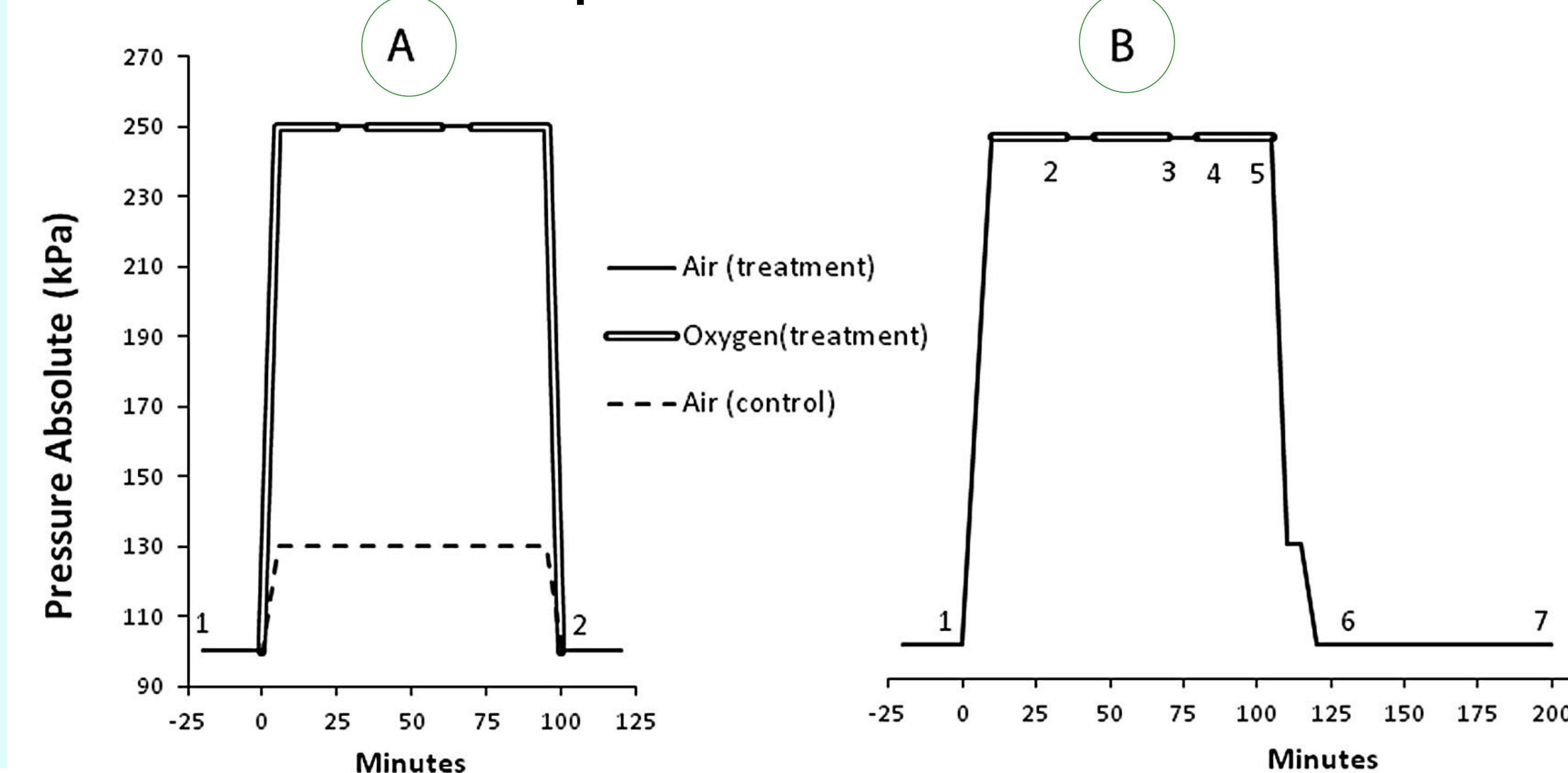
Results

Normobaric In-Vitro NO₂ & NO-production from oral bacteria

Bacteria suspension exposed to varying levels of O₂ in the presence of NO₃, presented with NO & NO₂ oxidation controls (C,D)



Exposure tables



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