

Association between high sensitivity troponin T and NT-pro brain natriuretic peptide and peripheral arterial disease in people with HIV

TR. Holtveg, AM Reimer-Jensen, A. Bock, MA Suarez-Zdunek, AD. Knudsen, TL Benfield, S. Afzal, BG Nordestgaard, SR Ostrowski, T Biering-Sørensen, R. Frikke-Schmidt, SD. Nielsen

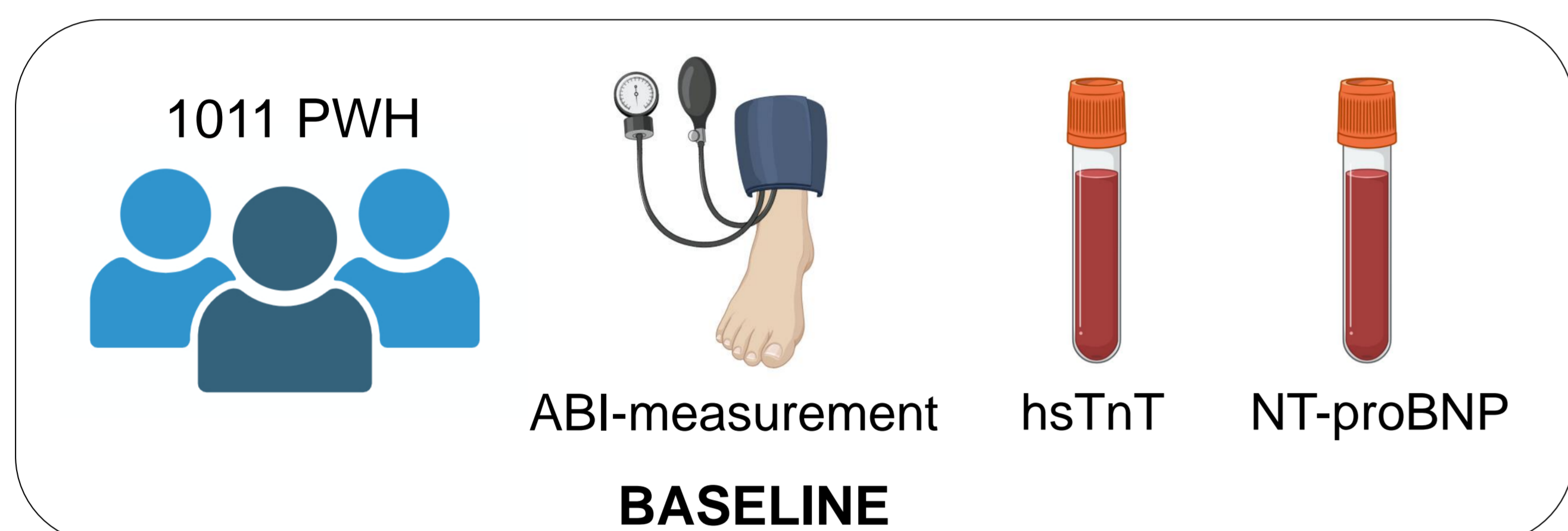
BACKGROUND

People living with HIV (PWH) have high risk of peripheral artery disease (PAD). High sensitivity troponin (hsTnT) and NT-pro B-type natriuretic peptide (NT-proBNP) are associated with PAD in the general population and could be useful screening tools for PAD in PWH.

AIMS

- Is high concentrations of hsTnT and/or NT-proBNP associated with prevalent peripheral artery disease (PAD) in people with HIV (PWH)?
- Is high concentrations of hsTnT and/or NT-proBNP associated with increased risk of de novo PAD in PWH?

METHODS

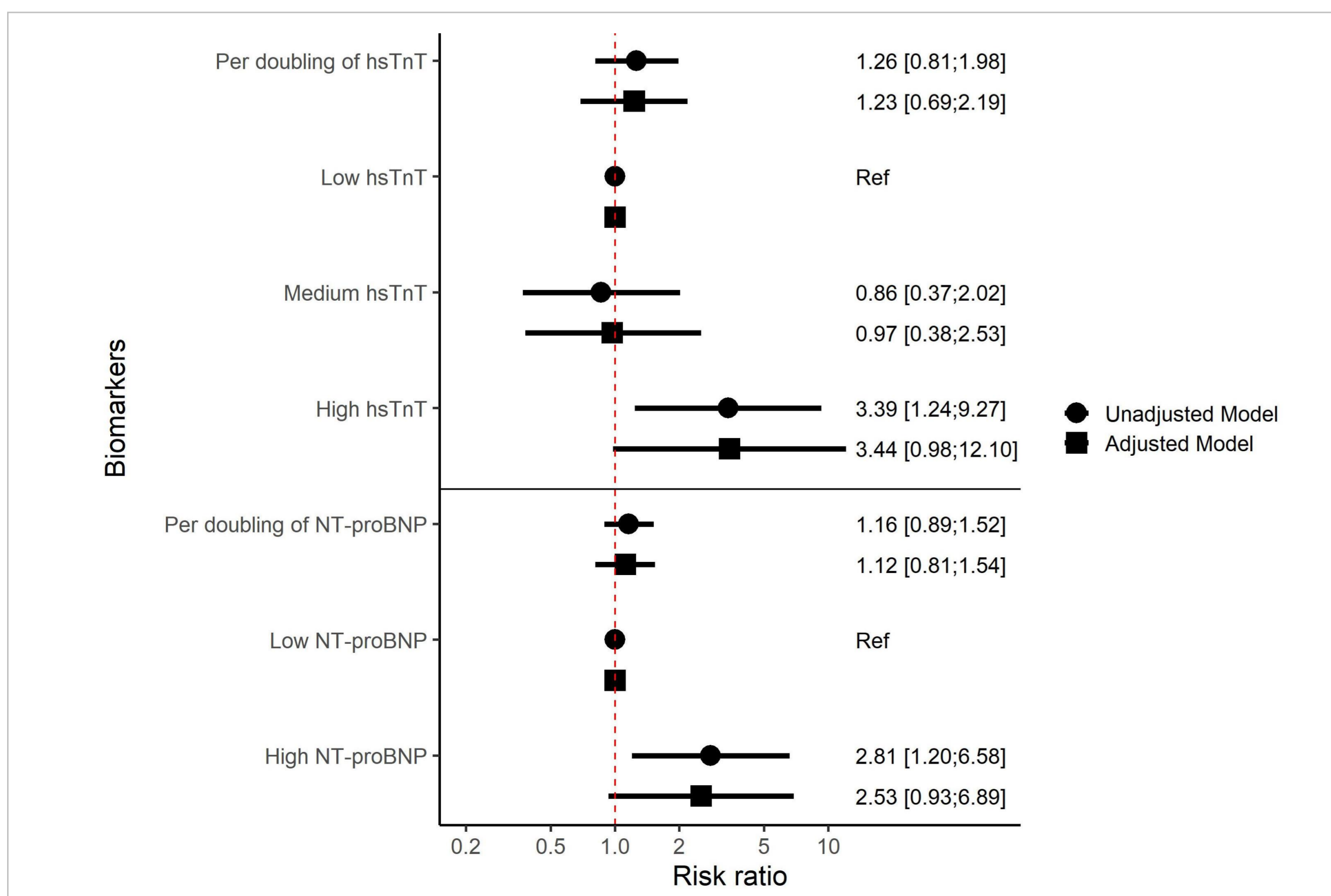


RESULTS

Table 1: Baseline characteristics by hsTnT

Variable	Low (n=591)	Medium (n=359)	High (n= 61)
Age (years), mean ± SD	45.9 ± 9	55.6 ± 10.4	62.7 ± 12.5
Male, n(%)	474 (80)	328 (91)	60 (98)
Ethnicity			
• Caucasian, n(%)	485 (84)	325 (93)	58 (100)
• Other, n(%)	96 (17)	24 (7)	0 (0)
Smoking			
• Never, n(%)	223 (38)	126 (35)	19 (31)
• Current, n(%)	188 (32)	94 (26)	15 (25)
• Previous, n(%)	180 (31)	139 (39)	27 (44)
Hypertension, n(%)	168 (31)	206 (60)	38 (62)
Diabetes, n(%)	9 (2)	25 (7)	8 (13)
BMI, (kg/m ²), mean ± SD	24.8 ± 3.8	25.4 ± 4.1	25.2 ± 4.5
Current CD4-count (cells/μL), mean ± SD	735 ± 282	700 ± 292	652 ± 262
CD4 nadir < 200 (cells/μL), n(%)	184 (32)	179 (51)	32 (53)
Time with HIV (years), mean ± SD	12.2 ± 8.2	17.1 ± 9.5	19.8 ± 8.3
Currently treated for HIV, n (%)	581 (98)	355 (99)	60 (98)
NT-proBNP, (pmol/L), median [IQR]	4.3 [2.5, 6.8]	6.4 [3.4, 11.1]	9.5 [5.7, 19.1]
hsTnT, (ng/L), median [IQR]	4 [3.2, 4.9]	8.3 [6.9, 10.2]	18.5 [16.1, 22.0]
LDL, (mmol/L), mean ± SD	2.8 ± 0.9	2.8 ± 1	2.5 ± 1
hsCRP, (mg/L), median [IQR]	1.1 [0.5, 2.2]	1.3 [0.7, 2.6]	1.7 [1.1, 3.0]
IL-6, (pg/ml), median [IQR]	1.3 [0.9, 1.9]	1.6 [1.1, 2.6]	2.4 [1.8, 3.9]

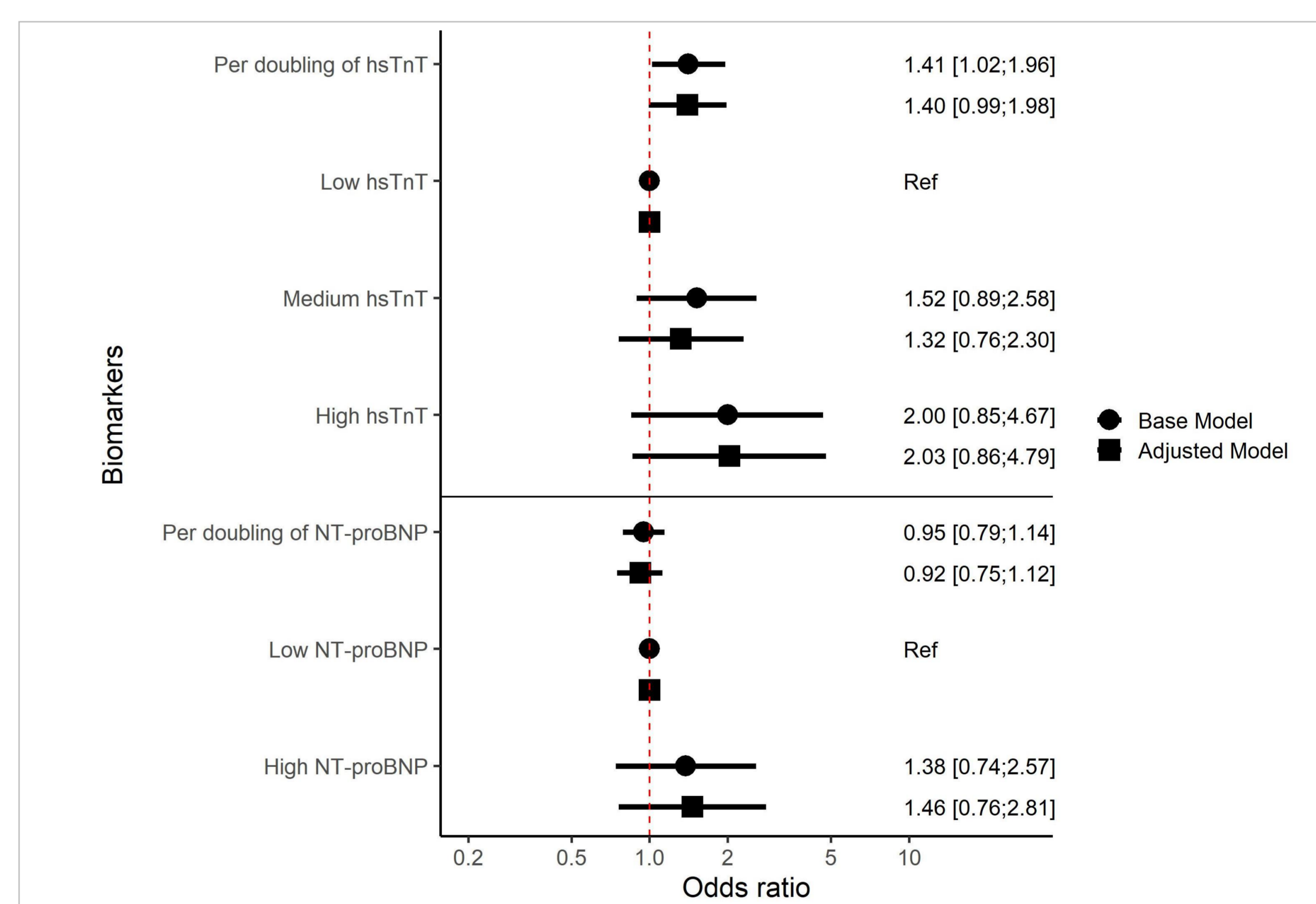
Figure 2: Association between hsTnT, NT-proBNP and de novo PAD among 802 PWH



Unadjusted model: No adjustments

Adjusted model: Adjusting for age per 10 years, smoking and diabetes

Figure 1: Association between hsTnT, NT-proBNP and prevalent PAD among 1011 PWH



Base model: adjusted for age and sex

Adjusted model = adjusted for age, sex, smoking, hypertension, and diabetes.

Biomarker cut-off values

- | | |
|------------------------|---------------|
| hsTnT | NT-proBNP |
| • Low (< 6 ng/L) | • ≤ 15 pmol/L |
| • Medium (>6 ≤14 ng/L) | • > 15 pmol/L |
| • High (> 14 ng/L) | |

CONCLUSION

- A doubling of hsTnT concentration was associated with higher odds of prevalent PAD in PWH
- High hsTnT was associated with higher risk of de novo PAD in PWH after a 2-year follow-up
- NT-proBNP was not associated with PAD in PWH