AORTIC ANEURYSMS AND MARKERS OF ENDOTHELIAL AND PLATELET ACTIVATION IN PLWH

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Sylvester Gronbaek, Julie Hogh,, Michael Pham[2], Andreas Dehlbæk Knudsen[1,2], Andreas Fuchs[2], Sisse Ostrowski[3], Thomas Benfield, Klaus Kofoed[2], Susanne Dam Nielsen[1]

[1]Department of Infectious Diseases, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark; [2]Department of cardiology, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark; [3]Department of Clinical Immunology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark; [4]Center of Research and Disruption of Infectious Diseases, Department of Infectious Diseases, Copenhagen University Hospital, Amager and Hvidovre, Hvidovre, Denmark

BACKGROUND

People living with HIV (PLWH) have more than four times higher odds of aortic aneurysm (AA) than the uninfected population. We aimed to investigate whether circulating biomarkers reflecting platelet activation, hemostasis and endothelial disruption, i.e. sCD40L, D-dimer, syndecan-1, and thrombomodulin, were associated with AA in PLWH.

METHODS

PLWH from the Copenhagen Comorbidity in HIV Infection (COCOMO) study ≥40 years were offered a contrast-enhanced CT scan.

Biomarkers

Biomarkers were analyzed on thawed plasma.

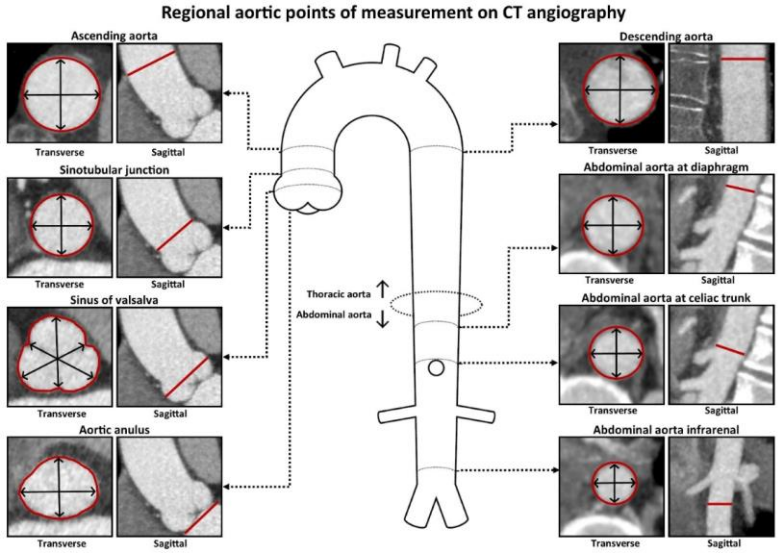
For sCD40L, syndecan-1, and thrombomodulin, we defined high level as a concentration in the upper quartile

For D-dimer, the cut-off was defined as the lower limit of detection.

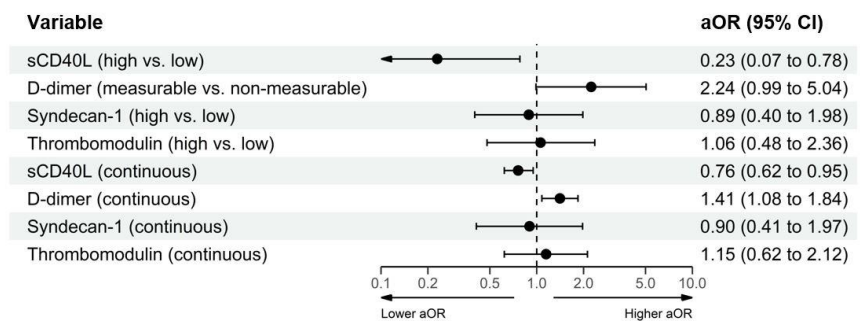
sCD40L was associated with lower odds of AA, and high D-dimer was associated with higher odds of AA. These findings call for further investigation into their utilization as a biomarkers of AA in PLWH.

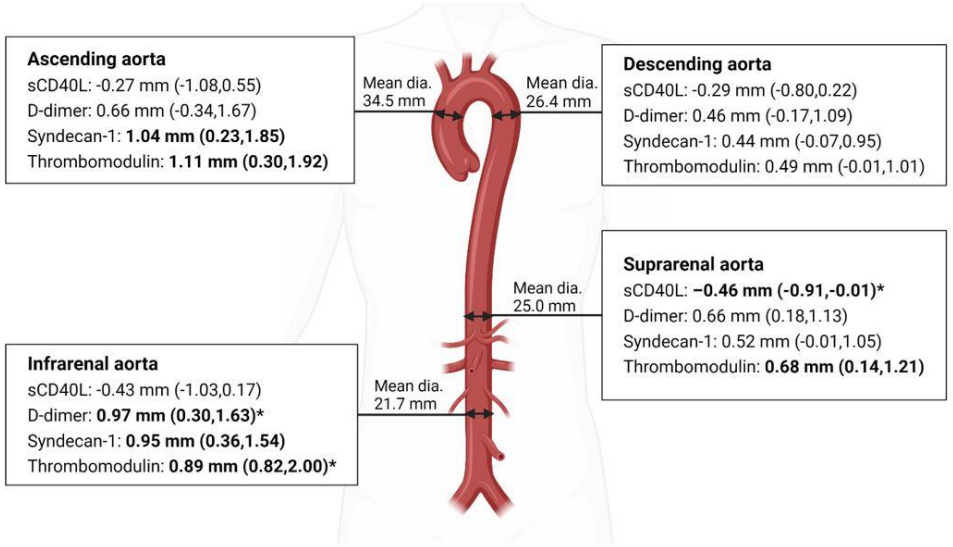
RESULTS

In 571 participants aged 40 years or older with available contrast-enhanced CT ***and*** biomarker measurements. In total, 43 aneurysms were found in 39 PLWH (7%).



Variable	PLWH (N=571)
Characteristics	
Age, median [IQR]	51.6 [47.0-59.8]
Male sex, n (%)	503 (88.1%)
BMI, mean (SD)	24.8 (3.5)
Smoking status, n (%)	
Never smoker	188 (32.9%)
Current smoker	152 (26.6%)
Previous smoker	219 (38.4%)
Hypertension, n (%)	263 (46.1%)
Platelets, $\times 10^9$/L, mean (SD)	226.8 (57.5)
HIV-specific risk factors	
Transmission mode, n (%)	
MSM	415 (72.7%)
Heterosexual	116 (20.3%)
IDU	6 (1.1%)
Other	28 (5%)
CD4⁺ nadir <200, n (%)	235 (41.2%)
CD4⁺/CD8⁺-ratio, median [IQR]	0.813 [0.578-1.13]
Time since HIV diagnosis, median [IQR]	15.1 [7.74-22.6]
Currently on ART, n (%)	565 (98.9%)
Concentrations of the biomarkers	
Syndecan-1, pg/mL, median [IQR]	2070 [1801-2413]
Thrombomodulin, pg/mL, median [IQR]	6598 [5541-7823]
sCD40L, pg/mL, median [IQR]	184 [118-243]
D-dimer, ng/mL (FEU), median [IQR]	290 [290-290]





Author´s contact information: **Susanne Dam Nielsen**, Department of Infectious Diseases, University of Copenhagen, Rigshospitalet, Copenhagen, Denmark Susanne.Dam.Poulsen@regionh.dk