

M. MEIRING,¹ M. KHEMISI¹, E.SCHAPKAITZ², S LOUW²

¹ NHLS and University of the Free State, Bloemfontein, South Africa

² NHLS and University of the Witwatersrand, Johannesburg, South Africa

INTRODUCTION

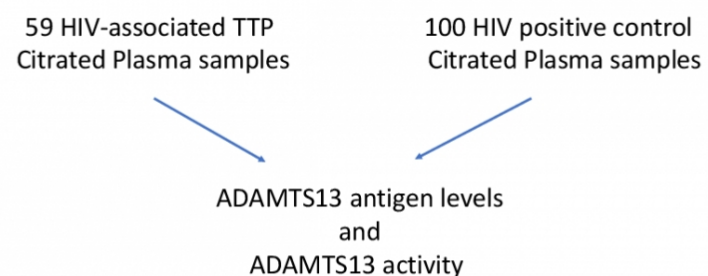
Thrombotic thrombocytopenic purpura (TTP) is a potentially fatal thrombotic microangiopathic disorder that can occur secondary to human immunodeficiency virus (HIV) infection and is prevalent in sub-Saharan Africa [1]. The pathogenesis involves deficiency of the von Willebrand factor (VWF) cleaving protease ADAMTS13 and the presence of anti-ADAMTS13 auto-antibodies [2].

AIM

The aim of this study was to compare the ADAMTS13 level and activity in HIV-associated TTP patients to and HIV positive non-TTP control group.

METHOD

Plasma from 59 patients diagnosed with HIV-associated TTP and a hundred HIV positive plasma samples from HIV infected patients without TTP were used as controls. ADAMTS13 level and activities were measured with the TECHNOCLONE ADAMTS13 assay kit.



RESULTS

ADAMTS13 antigen levels of HIV associated TTP patient plasma samples ranged from 0% to 48%, including 8 samples having undetectable ADAMTS13 antigen levels of 0%. The ADAMTS13 activity levels were all under 10%. Hundred control plasma samples from HIV positive patients without TTP had ADAMTS13 antigen levels ranging from 36% to 130% with 85% in the normal range of 50% to 160% and 15% with slightly low levels of 36% to 50%. The ADAMTS13 activity levels detected in the control group of patients with HIV infection but without TTP ranged from 25% to 116% with 11% being below 50% (24-49%) and 89% in the normal range (50-150%). The ADAMTS13 antigen and activity levels of the HIV-associated TTP group and the HIV control group were compared and differs statistically significantly with a p-value of <0.05.

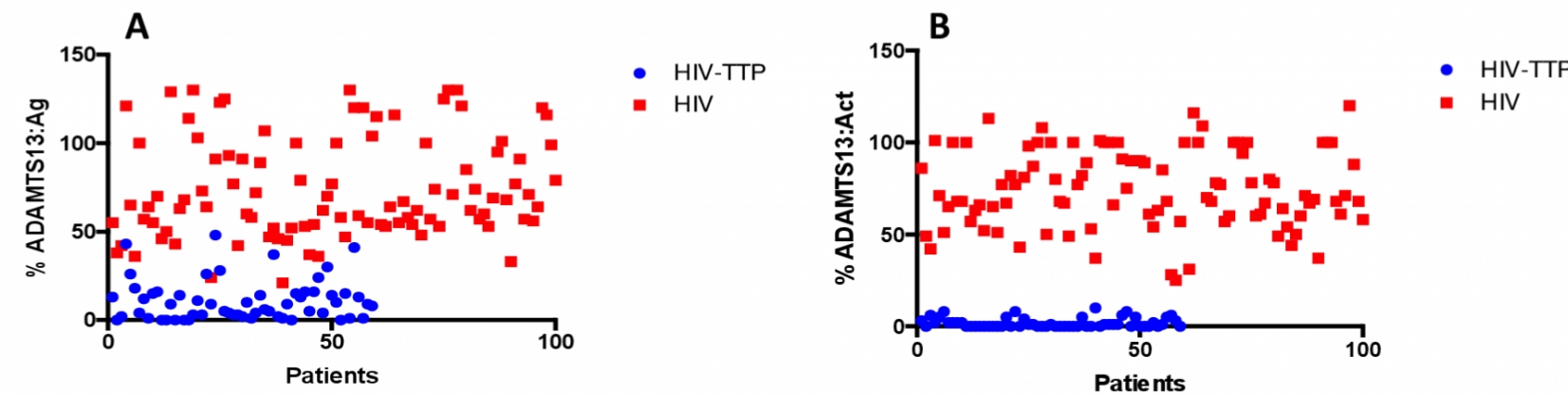


Figure 1: Comparison of ADAMTS13 antigen levels (A) and ADAMTS13 activity (B) results of individual plasma samples between the HIV-associated TTP group and the HIV positive plasma group.

Table 1: Comparison of ADAMTS13 antigen levels and ADAMTS13 activity results for HIV-associated TTP and HIV positive plasma samples.

	HIV-associated TTP (n=59)	HIV positive (n=100)	P value
Median ADAMTS13 antigen levels (range)	9 (0-48)%	66 (36-130)%	<0.05
Median ADMATS13 activity (range)	0 (0-10)	71 (25-116) %	<0.05

DISCUSSION AND CONCLUSION

Only fifteen and eleven percent of the hundred HIV positive control plasma samples had slightly reduced ADAMTS levels and activities respectively. It is suggested that the synthesis of metalloprotease, such as ADAMTS13 proteins might be decreased in HIV positive samples due to the micronutrient deficiencies in these patients [3]. However, HIV might not be the trigger for HIV-associated TTP since reduced ADAMTS13 level and activity levels have only pathophysiological relevance in HIV associated TTP and other acquired forms of TTP.

ACKNOWLEDGEMENTS

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CONTACT INFORMATION

Prof Muriel Meiring
 E-mail: MeiringSM@ufs.ac.za