

Syphilis on the rise in HIV positive MSM in Germany

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BACKGROUND AND AIMS

- STDs, such as syphilis, have been increasing in recent years among MSM, often HIV+ patients, due to more frequent condomless sex.
- Aim of our study was to evaluate incidence of syphilis infection, impact on immunological and laboratory markers and treatment response of serological markers in a German cohort.

PATIENTS AND METHODS

This retrospective study included 859 HIV+ patients screened for syphilis infection (TPPA, VDRL) November 2015 - May 2017 in the HIV out-patient clinic at Bonn University Hospital. The impact of syphilis and its treatment on renal function markers (serum creatinine, GFR), liver enzymes (gamma-GT, ALT, AST), inflammatory parameters and blood count (CRP, Hb, LDH) and immune response (leucocytes, CD4 count, CD8 count, CD4/CD8 ratio) was investigated 3-6 months before, at time of syphilis diagnosis, and 3-6 months after treatment. Serologic response to syphilis treatment (VDRL, TPPA) was investigated every 3 months after treatment.

RESULTS

In the study period 43/859 (5%) patients were diagnosed with syphilis. Of these 3/43 (7%) were reinfected within the observation period. Compared to incidence of syphilis infection between 2000-2010 there was a 2.4-fold increase in 2016. Past syphilis infection was detected in 28% (244/859). All patients with syphilis were male and 97% MSM. Compared to the whole study population patients were younger (mean age 44 yrs. vs. 49 yrs.) and fewer had symptomatic HIV disease (77% CDC stage A vs. 57%) (Table 1). Only 37% developed symptoms of syphilis (47% exanthema, 20% chancres, 20% uveitis, 13% urethritis). At the 3 observed timepoints mean gamma-GT increased from 49U/l to 70U/l ($p=0.001$) and decreased to 53U/l (Figure 1), respectively, CRP increased from 2.1 to 7.4mg/dl and decreased after treatment to 1.6mg/dl ($p=0.002$) (Figure 2) and the mean CD4 count dropped from 670/ μ l to 646/ μ l at time of syphilis diagnosis and increased significantly after treatment to 715/ μ l (mean, $p=0.022$) (Figure 3). The relative CD4 cell count didn't change during the observation period. Following syphilis treatment VDRL titer showed a slow decrease. After 3-6 months only 50% had a ≥ 4 -fold decrease, which reached 86% after 9-12 month (Figure 4).

RESULTS

	Syphilis Patients		All HIV+ Patients	
Number of patients, n	43	Base of valid percent, n	859	Base of valid percent, n
Mean age, years (range)	44 (38;57)		49 (40;56)	
Male (%)	100%	43	84.2%	859
ART (%)	100%	42	99.1%	846
HIV-RNA ≤ 40 copies/ml, n (%)	40 (95.2%)	42	785 (91.5%)	858
Mode of transmission				
MSM, n (%)	37 (97.4%)	38	491 (62.7%)	783
Mean CD4/ μ l	670.4		618.5	
CDC stage, n (%)		34		747
A	26 (76.5%)		423 (56.6%)	
B	3 (8.8%)		159 (21.3%)	
C	5 (14.7%)		165 (22.1%)	
Mean duration of HIV infection, years (range)	9 (5.75;15.25)		11 (5-18)	
HBV coinfection, n (%)	19 (47.5%)	40		
HCV coinfection, n (%)	9 (25%)	36		

Table 1: Baseline characteristics of 859 HIV+ patients, 43 of them with syphilis

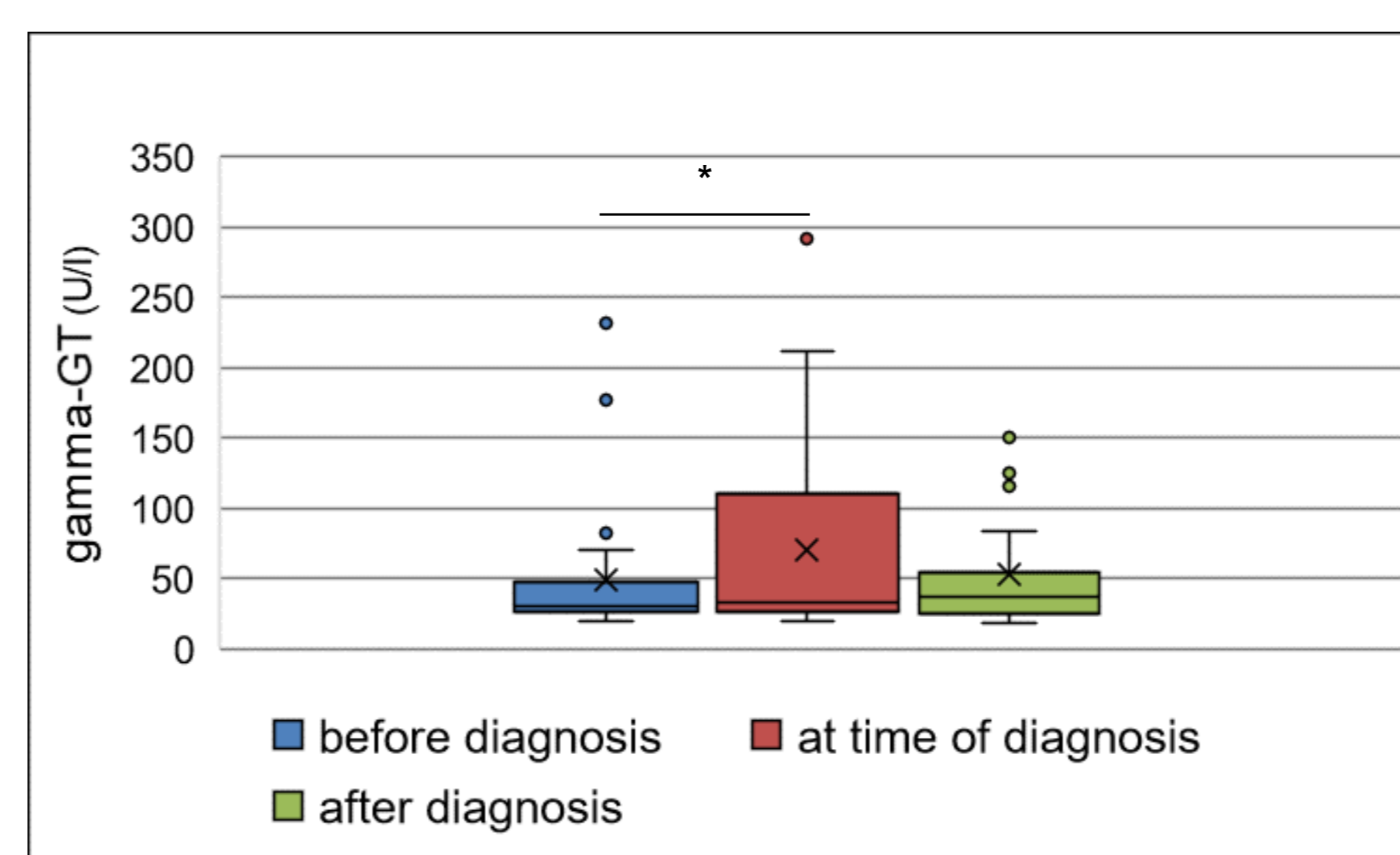


Figure 1: Significant increase of gamma-GT after syphilis infection is shown, * $p<0.05$

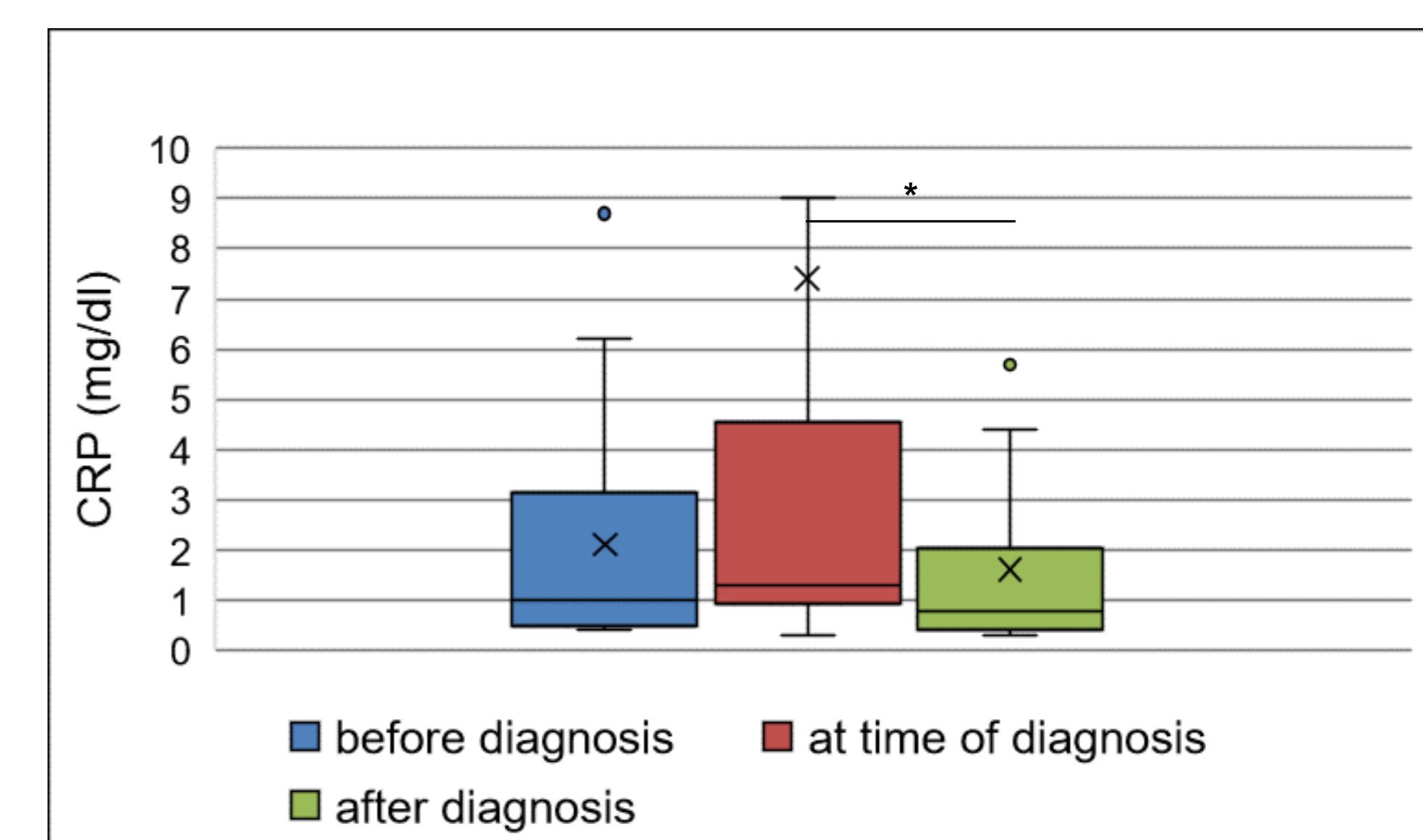


Figure 2: Changes in CRP dependent on syphilis infection and treatment show significant decrease after treatment, * $p<0.05$

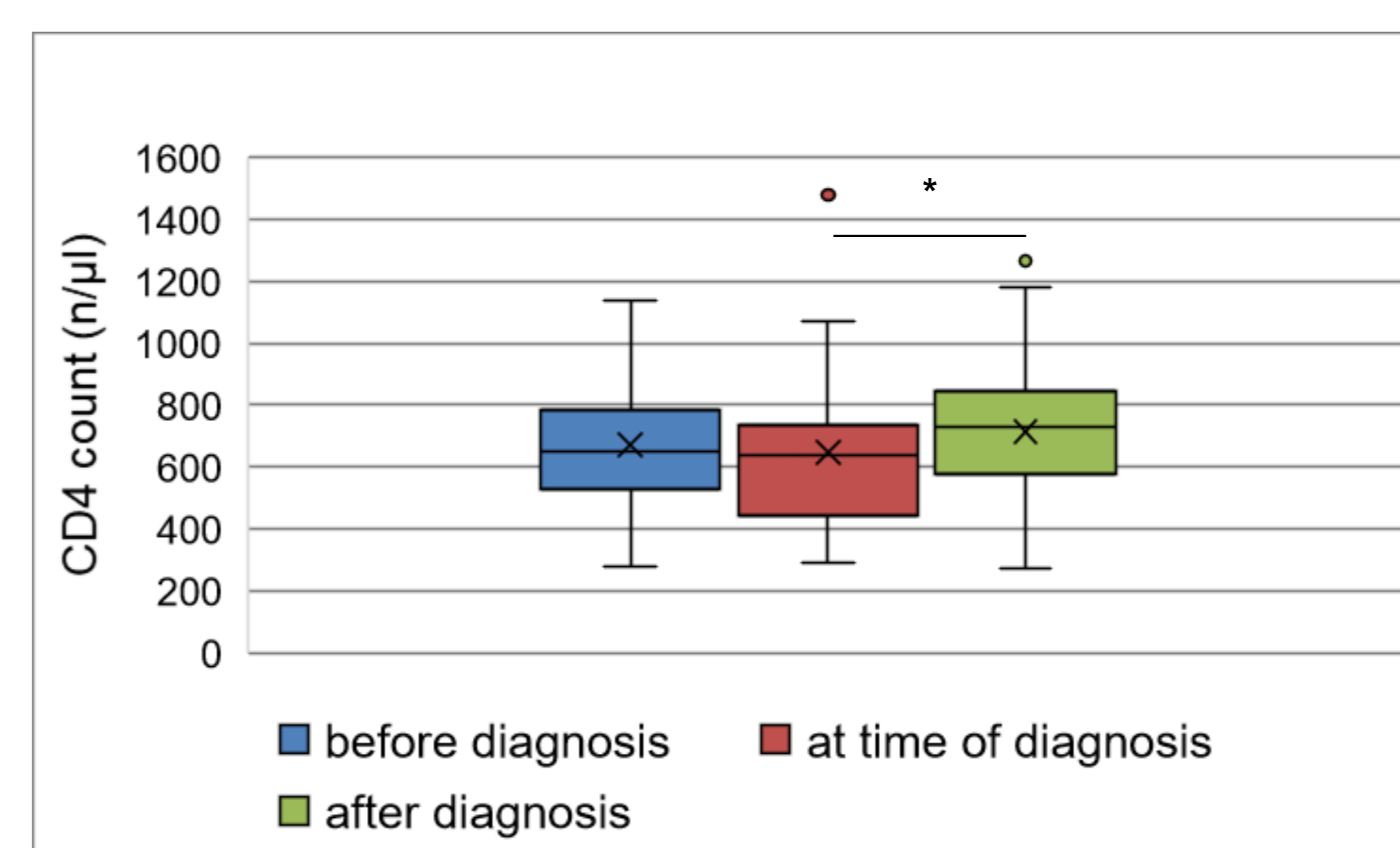


Figure 3: Changes in CD4 count dependent on syphilis infection and treatment show significant increase after treatment, * $p<0.05$

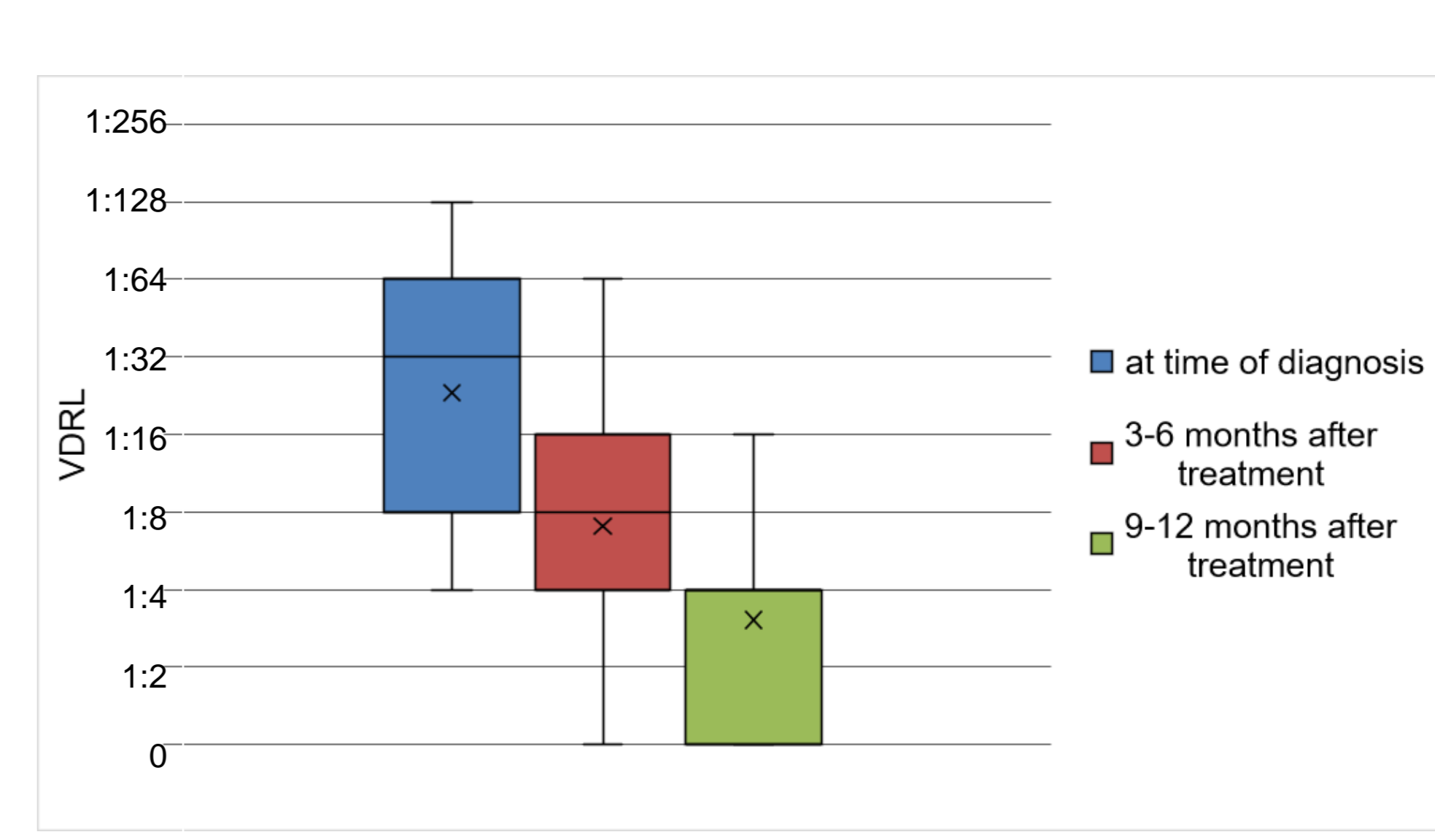


Figure 4: Slow decrease of VDRL titer after treatment of syphilis (n=28)

CONCLUSION

- Syphilis coinfection has dramatically increased in our HIV+ population, especially in younger, healthier MSM.
- Regular screening is extremely important in this group of HIV+ patients as more than half of syphilis cases miss symptoms of infection.
- Elevation of gamma-GT and CRP and decrease of absolute CD4 cell count may be an indicator of syphilis infection.
- VDRL can show a slow decrease after treatment and requires monitoring.