

Characterization of HIV/AIDS patients hospitalized in Tianjin, China after implementation of prophylaxis guidelines

天津市第二人民医院
Tianjin Second People's Hospital

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Introduction

- China continues to see a steady rise in the rate of new annual HIV infection¹.
- There is a marked geographic variance in that only twelve out of its thirty-one provinces account for 84.3% of China's total HIV/AIDS reported cases¹.
- There has been a significant rise in the exposure risk category of "men who have sex with men" from 2.5% (2006) to 25.8% (2014)¹.
- The drastic change in reported exposure risk pattern is thought to be the result of increased acceptance of male homosexuality in China¹.
- There is little information on China's HIV/AIDS population's characteristics, particularly because of the differences in demographics and prevalence among provinces.
- Even less data exists for the Tianjin region, despite it ranking among the five largest cities in China.

Methods

- Data were abstracted from medical records of all 223 patients hospitalized from January 1, 2013 to December 31, 2015 at the Tianjin Second People's Hospital, Tianjin, China.
- Data collected include gender, age, mode of HIV transmission, follow up status, treatment duration, and dates of diagnosis, treatment initiation, and admission.
- Inpatient data collected include all diagnoses at time of admission. Of these conditions, opportunistic infections (OIs) were identified based on World Health Organization (WHO) guidelines².
- Data were analyzed using SPSS Version 24.
- Frequencies were computed for demographic and clinical factors.

Results

Table 1: Demographic and clinical patient characteristics

Patient Characteristics (n=223)		
	Number of patients	Percentage of total
Gender		
Male	213	95.5%
Female	10	4.5%
Follow up		
In treatment	175	78.5%
Lost to follow up	9	4.0%
Deceased	38	17.0%
Transferred out	1	0.5%
Transmission		
Same-sex sexual transmission	106	47.5%
Heterosexual transmission	57	25.6%
IV drug use	13	5.8%
Blood transfusion	5	2.2%
Did not disclose	42	18.8%
Age		
Mean = 43.5 years		
Median = 42.9 years		
Range: 19 – 76 years		

Table 2: Primary reason for hospitalization

Primary reason for hospitalization (n=223)			
	Number of patients	Mean CD4 (cells/μl)	CD4 range
Abscess	3	164.00	18 - 321
CMV	8	54.00	2 - 250
Drug induced hepatitis	8	334.50	102 - 696
Drug rash	3	193.33	1 - 341
Enteriditis	4	32.00	9 - 76
Esophageal candidiasis	3	17.67	2 - 36
Hepatitis B	3	278.00	4 - 487
Hepatitis C	2	462.00	375 - 549
Lymphoma	2	82.00	47 - 117
Mycobacterium avium complex	1	3.00	-
Meningitis	8	48.25	4 - 201
Myocardial ischemia	1	48.00	-
Oral candidiasis	1	119.00	-
Pancreatitis	2	165.00	79 - 251
Pericardial effusion	1	107.00	-
Peritonitis	1	75.00	-
Progressive multifocal leukoencephalopathy	2	67.50	5 - 130
Pneumonia	90	71.68	1 - 480
Retinitis	1	17.00	-
Severe anemia	1	2.00	-
Skin infection	2	88.00	30 - 146
Stroke	2	17.50	9 - 26
Syphilis	9	240.00	9 - 650
Mycobacterium tuberculosis	9	122.56	2 - 234
Toxoplasma encephalitis	1	144.00	-
Thrombotic thrombocytopenic purpura	1	554.00	-
Varicella zoster virus	3	232.00	9 - 470
Uveitis	1	97.00	-
Other – Appendicitis, Aspergillosis, Coronary artery disease, Fatty liver, Epiglottitis, Gastric cancer, Gastroenteritis, Heart failure exacerbation, Hypertension, Lymphadenitis, Sinusitis	16	-	-

Table 3: Most common OIs out of all hospital diagnoses

Most common OIs (n=223)		
	Number of patients	Percentage of total hospitalized
Pneumonia	106	47.5%
Bacterial	21	9.4%
Pneumocystis	62	27.8%
Both bacterial and pneumocystis	9	4.0%
Cryptococcal	1	0.4%
Unknown	13	5.8%
Syphilis	66	29.6%
Mycobacterium tuberculosis	22	9.9%
Intestine	2	0.9%
Lumbar spine	1	0.4%
Lymph node	4	1.8%
Pulmonary	11	4.9%
Pleuritis	1	0.4%
Miliary	1	0.4%
Unspecified	2	0.9%
Oral candidiasis	49	22.0%
Cytomegalovirus	17	7.6%
Hepatitis B	14	6.3%
Hepatitis C	13	5.8%

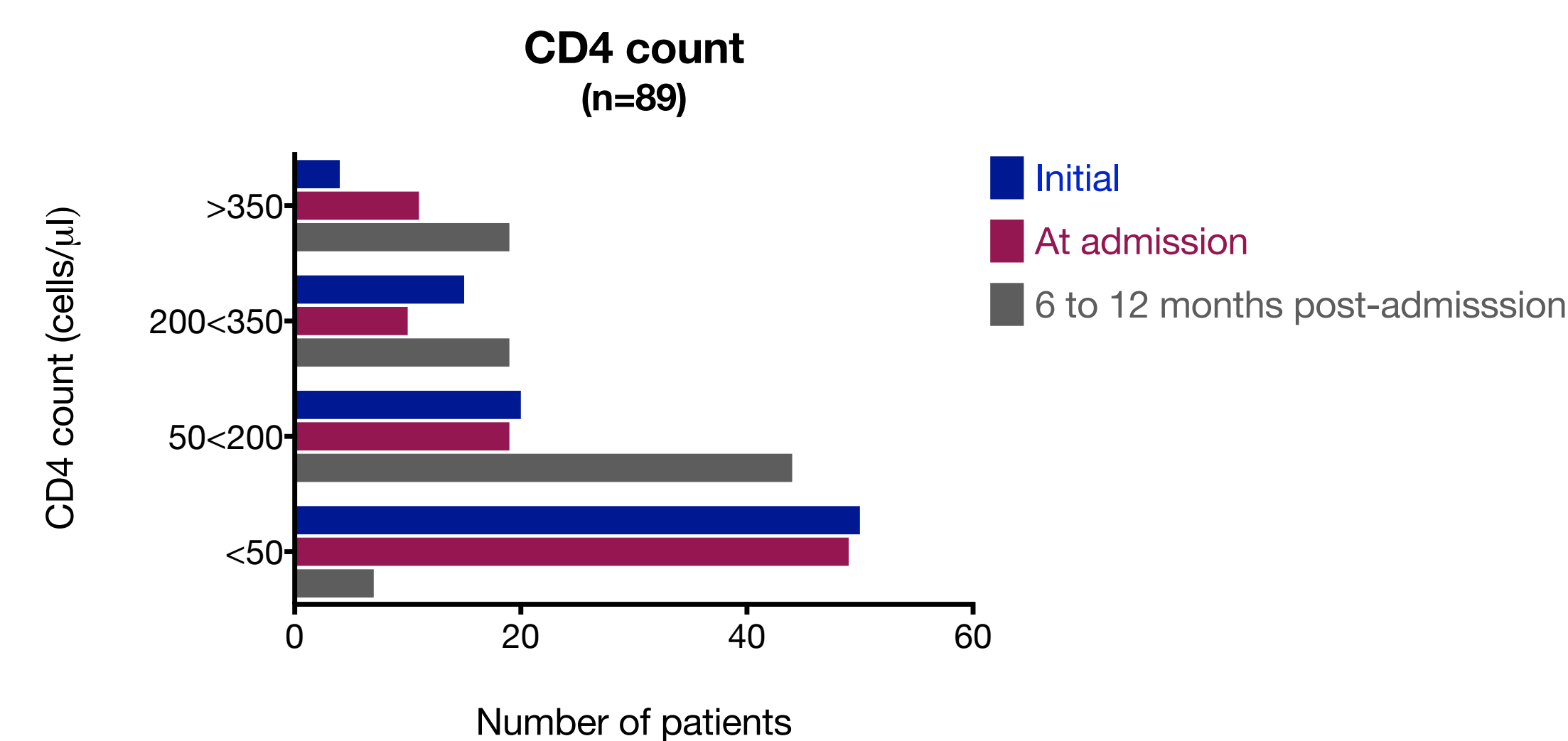


Figure 1: CD4 counts (cells/μl) shown for patients tested prior to admission, at admission, and 6 to 12 months after admission. Patients were excluded if they were missing one or more these values.

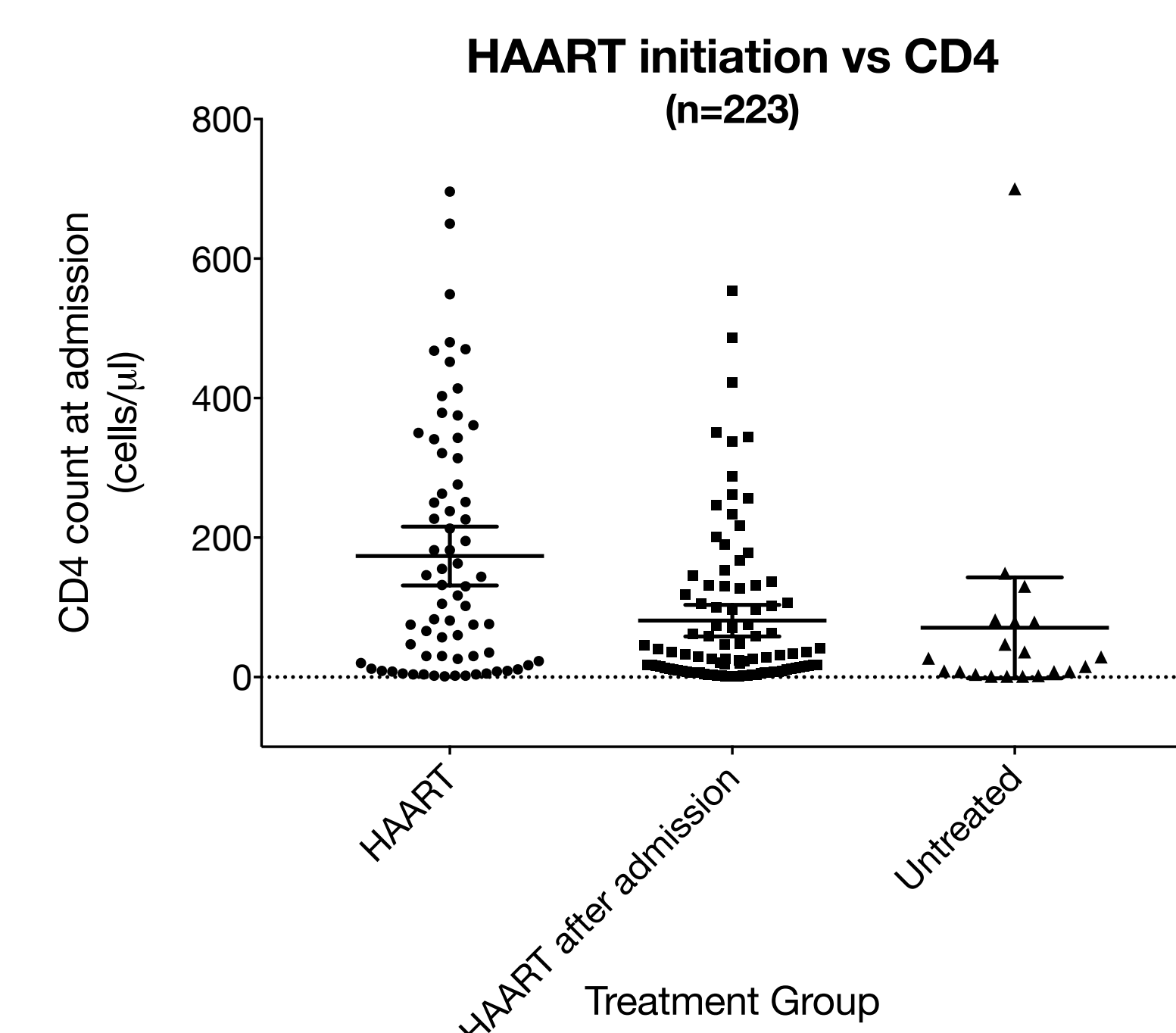


Figure 2: CD4 counts (cells/μl) grouped by HAART initiation prior to admission, after admission, and untreated. Lines depict mean with 95% confidence interval.

Conclusion

- Hospitalized HIV-infected patients were predominantly middle-aged males being treated for pneumonia or sexually transmitted infections.
- The majority of patients admitted with low CD4 counts were those who were newly diagnosed or had not yet received HAART, suggesting the need for early detection of HIV, regular monitoring of disease progression, as well as adherence to treatment.
- Patients were not receiving prophylaxis for preventable OIs. Almost one third of patients were diagnosed with pneumocystis pneumonia, with a mean CD4 of 70 cells/μl – well below the threshold for initiating prophylactic therapy.
- Further research is needed to determine if these findings are a result of infrequent disease monitoring, previously unknown diagnosis, or patient non-adherence to treatment.

References:

- Huang, M.-B., et al., *Characterizing the HIV/AIDS Epidemic in the United States and China*. International Journal of Environmental Research and Public Health, 2016. 13(1): p. 30.
- World Health Organization. "Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection." *Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection*. WHO, June 2016. apps.who.int/iris/bitstream/handle/10665/208825/9789241549684_eng.pdf?sequence=1.