0275 - KAPOSI SARCOMA INCIDENCE BETWEEN 2010-2015 IN THE FRENCH DAT'AIDS COHORT

CROI Conference on Retroviruses and Opportunistic Infections
Seattle, Washington
March 4–7, 2019

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BACKGROUND

Kaposi sarcoma (KS) has long remained the most common malignant condition in people living with HIV (PLWHIV). Although ART reduced the risk of KS and modified clinical features and prognosis (1, 2), KS continues to occur in ART-treated patients with sustained undetectable HIV viral load (HIV-VL) and immune restoration (3). To date however, the prevalence of such clinical presentation is not cleary identified. Moreover, the current incidence of KS remains under reported in PLWHIV.

OBJECTIVES

- To assess KS incidence in PLWHIV in France between 2010 and 2015.
- To describe KS cases according to clinical presentation, ART exposure, HIV viral load and immune status at time of KS diagnosis.
- To determine factors associated with incident KS.

METHODS

Retrospective study using longitudinal data from **17 French HIV clinical centers contributing to the DAT'AIDS cohort** (*NCT 02898987 ClinicalTrials.gov*).

KS cases diagnosed between 01/2010 and 12/2015 were identified using ICD-10 code C46.

We considered all KS cases for description of clinical presentation. For incidence assessment, prevalent KS cases occurring within 30 days after cohort enrollment were excluded. Characteristics of **patients without incident KS** are described at the last visit of follow-up, **those of incident KS cases at time of KS diagnosis**. Factors associated with KS were identified using multivariate Poisson regression. Statistical analyses were performed with SAS, STATA.

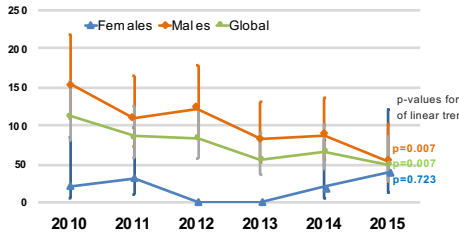
RESULTS

Table 1- Patients' characteristics

Median [IQR] ; N (%)	PATIENTS WITHOUT INCIDENT KS N=44505	PATIENTS WITH INCIDENT KS N= 137	P
HIV Follow-up Time (y)	13.3 [6.3 ; 21.3]	5.9 [1.2; 13.1]	<.0001
Female	13533 (30.41)	10 (7.30)	<.0001
Male	30972 (69.59)	127 (92.70)	
Age	48 [40 ; 55]	44 [37 ; 51]	0.0001
HIV Contamination Route			<.0001
Heterosexual	18950 (42.99)	29 (21.17)	
MSM	16898 (38.33)	88 (64.23)	
IVDU	3627 (8.23)	4 (2.92)	
Others/UnKnown	4607 (10.45)	16 (11.68)	
CDC stage			<.0001
A	26877 (61.22)	2 (1.47)	
B	6801 (15.49)	0 (0.00)	
C	10221 (23.28)	134* (98.53)	
HCV coinfection			0.07
No	37795 (84.92)	124 (90.51	
Yes	6710 (15.08)	13 (9.49	
Nadir CD4 cell count/mm³	223 [97-350]	163 [39-328]	0.002
≥200/mm³	24067 (55.27)	58 (43.94)	0.01
<200/mm³	19475 (44.73)	74 (56.06)	
CD4 T cell count/mm³	601 [412 ; 810]	262 [120 ; 466]	<.0001
≤ 200/mm³	3164 (7.30)	53 (39.55)	<.0001
201- 500/mm³	12526 (28.90)	55 (41.04)	
> 500/mm³	27652 (63.80)	26 (19.40)	
CD8 T cell count/mm³	770 [552 ; 1053]	924 [615; 1300]	0.0010
≤1000/mm³	30674 (71.27)	74 (56.49)	0.0002
>1000/mm³	12368 (28.73)	57 (43.51)	
CD4:CD8 ratio	0.78 [0.50-1.13]	0.28 [0.13-0.54]	<.0001
<1	28583 (66.45)	122 (93.13)	<.0001
≥1	14433 (33.55)	9 (6.87)	
HIV viral load (VL) copies/mL	20 [20-40]	854 [40-83734]	<.0001
HIV VL copies/mL			<.0001
≤ 50	36141 (83.39)	38 (28.57)	
51-1000	3415 (7.88)	29 (21.80)	
1001-10 000	1325 (3.06)	13 (9.77)	
10 001-100 000	1632 (3.77)	25 (18.80)	
>100 001	825 (1.90)	28 (21.05)	
Time with HIV- VL<40 (years)	2.6 [0.4-6.1]	0 [0-0.1]	<.0001
ART naive	3921 (8.81)	51 (37.23)	<.0001
Antiretroviral treatment			<.0001
2 NRTI+ 1 boosted-PI	11596 (28.58)	48 (55.81)	
2 NRTI+ 1 NNRTI	13670 (33.69)	11 (12.79)	
2 NRTI+ 1 INSTI	7436 (18.33)	9 (10.47)	
Others	7875 (19.41)	18 (20.93)	
On first-line of ART	6532 (16.10)	37 (43.02)	<.0001
Time exposure to ART(y)	9.1 [3.2 ; 16.6]	1.0 [0.3 ; 9.8]	<.0001
Time exposure to the last ART (m)	22.1 [6.2 ; 53.3]	3.9 [1.2;13.0]	<.0001
Previous malignant disease	4494 (10.10)	7 (5.11)	0.05
Previous Kaposi	1283 (2.88)	0 (0.00)	0.04

* All CDC stage C were defined on KS

KS incidence rate 2010-2015



- **KS incidence 2010-2015: 76.0/ 10⁵ Person-Years (PY)** [95% CI: 64.3-89.9]
- **KS incidence by sex: Males: 102.4/ 10⁵ PY** [95% CI: 86.0-121.8] **Females: 17.8/ 10⁵ PY** [95% CI: 9.6-33.1]

Table 2- Factors associated with incident KS cases at time of diagnosis or at last available visit

Multivariate Poisson regression (N= 42 820)

	IRR	[CI 95%]	p
HIV Follow-up Time (y)	0.95	0.92-0.97	<.0001
Sex : Female vs Male	0.60	0.42-0.85	0.005
Age	1.01	0.99-1.02	0.20
HIV Contamination Route			
Heterosexual	1		
MSM	2.07	1.45-2.95	<.0001
PWID	0.62	0.29-1.35	0.23
Other	1.17	0.73-1.87	0.51
CD4 cell count> 500	1		
≤200	2.89	2.22-3.77	<.0001
]200-500]	1.11	0.87-1.41	0.40
cd8 ≤1000	1		
> 1000	1.34	1.12-1.60	0.002
Antiretroviral treatment			
2 NRTI+ 1 NNRTI	1		
2 NRTI+ 1 PI/b	1.33	0.97-1.83	0.19
2NRTI+ 1 INSTI	0.59	0.33-1.06	0.07
other	1.17	0.74-1.84	0.61
naives	1.94	1.34-2.80	0.001
Undetectable HIV viral load : No vs yes	1.91	1.51-2.41	<.0001

Description of the 209 KS cases

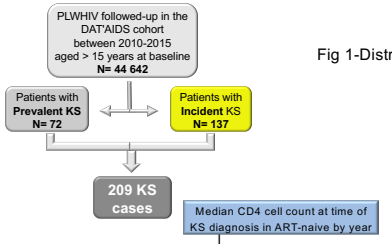


Fig 1-Distribution (n) of 209 KS cases according to ART status by year of diagnosis (p=0.51)

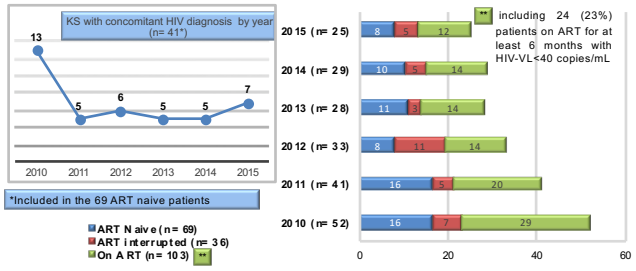
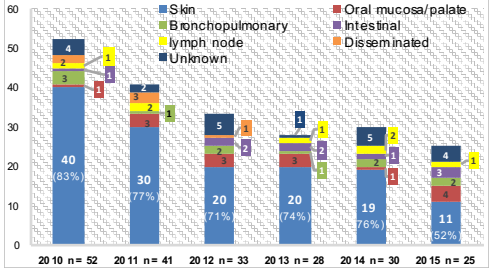


Fig 2- Clinical presentation according to year of diagnosis



Key points

- Proportion of **KS cases on ART was around 48%** and remained **stable during the study period** (Fig1).
- Among KS cases occurring in patients on ART, **24 patients were treated for at least 6 months, of which 9 with undetectable HIV-VL for at least 12 months and CD4 cell count > 500/mm³.**
- **41 KS** cases were **concomitant to HIV diagnosis**, of which **75.6% with CD4 cell count < 200/mm³**.
- **10 to 33% of KS** cases occurred in **patients who stopped ART** (Fig1).
- The clinical presentation of KS changed over time with **decrease of prevalence of skin manifestations** (Fig2).

CONCLUSION

The decline in KS incidence rates observed in France over 2005-2009 (4) continued between 2010-2015. MSM remains at higher risk of KS. This study highlights the **persistent delay in HIV testing in France** and the need **to reinforce HIV screening strategies in our country**. KS cases occurring in patients who stopped ART strengthens the importance of improving **retention in care** and those in patients on ART with control of viremia, the need of maintaining a **cautious examination and follow up**. Further studies are needed to **better understand KS pathogenesis mechanisms**.

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