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0289 - AIDS- AND NON-AIDS-DEFINING CANCER INCIDENCE BETWEEN 2010-2015 IN THE DAT'AIDS COHORT

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BACKGROUND

Although antiretroviral therapy has reduced the risk of developing AIDS-defining cancers, people living with HIV (PLWH) still have a high risk for some cancers, in particular virus-related (1,2). Given the increased life expectancy of PLWH, incidence of age- and behavioral-related cancers are expected to increase. However, data concerning recent incidence trends are scarce.

OBJECTIVES

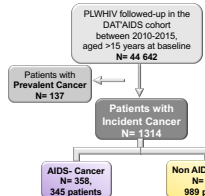
- To assess AIDS- and Non-AIDS-defining cancer incidence in PLWH in France between 2010 and 2015.
- To assess the evolution of breast, colorectal, prostate, anal, liver, bronchopulmonary, Hodgkin lymphoma (HL), head and neck cancer incidence.



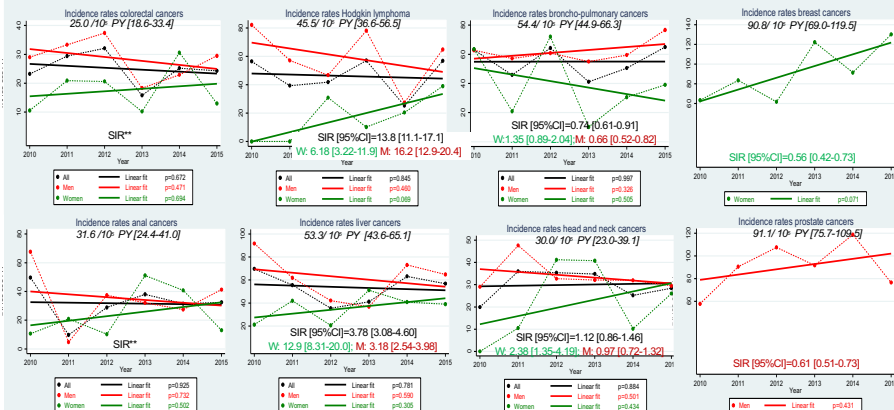
METHODS

Retrospective study using longitudinal data from 17 French HIV clinical centers contributing to the DAT'AIDS cohort (NCT 02898987 ClinicalTrials.gov). AIDS- and Non-AIDS defining cancer cases diagnosed between 01/2010 and 12/2015 were identified using ICD-10 codes.

For incidence assessment, prevalent cases, occurring within 30 days after enrollment in the cohort, were excluded. If more than one cancer occurred in the same patient during the study period, only the first case was considered. Standardized incidence ratios relatively to the French general population were calculated using the method of indirect standardization (3, 4). Statistical analyses were performed with STATA and SAS.



Non AIDS-defining cancer incidence rate by year and by sex between 01/2010-12/2015 and Standardized Incidence Ratio (SIR)



** SIR [95%CI]: 1.08 [0.88-1.32]; W: 1.33 [0.87-2.02]; M: 1.02 [0.81-1.28], calculated aggregating colorectal and anal cases as they were grouped in the general population

Table 1- Patients' characteristics

Characteristics	PATIENTS WITHOUT INCIDENT CANCER N= 43328	PATIENTS WITH INCIDENT CANCER N= 1314	P
Median (IQR) : N (%)			
HIV Follow-up Time (y)	13 (6; 21)	16 (8; 23)	<.0001
Female	13247 (30.57)	296 (22.53)	<.0001
Male	30081 (69.43)	1018 (77.47)	
Age	48 [40; 55]	52 [46; 61]	<.0001
HIV Contamination Route			<.0001
Heterosexual	18514 (43.15)	465 (35.39)	
MSM	16481 (38.41)	505 (38.43)	
IVDU	3409 (7.95)	222 (16.89)	
Others	4501 (10.49)	122 (9.28)	
CD4 stage			<.0001
A	26477 (61.97)	402 (30.64)	
B	6544 (15.33)	257 (19.59)	
C	9702 (22.71)	653 (49.77)	
HCV coinfection			<.0001
No	35931 (85.24)	988 (75.19)	
Yes	6397 (14.76)	326 (24.81)	
Nadir CD4 cell count/mm ³	225 [99; 353]	150 [50; 269]	<.0001
<200/mm ³	23013 (55.72)	512 (39.48)	<.0001
>200/mm ³	19315 (45.28)	326 (24.81)	
CD4 T cell count/mm ³	606 [418; 812]	450 [244; 648]	<.0001
<200/mm ³	2014 (6.90)	234 (19.40)	<.0001
201 - 500/mm ³	12105 (28.67)	482 (36.93)	
>500/mm ³	27209 (64.43)	569 (43.66)	
CD8 T cell count/mm ³	771 [566; 1054]	746 [506; 1000]	0.017
<500/mm ³	29632 (71.12)	914 (70.52)	
>500/mm ³	12113 (28.88)	332 (29.48)	
CD4:CD8 ratio	0.790 [0.61; 1.13]	0.590 [0.33; 0.99]	0.04
<1	27743 (66.18)	1018 (77.47)	<.0001
>1	14177 (33.82)	277 (21.39)	
HIV viral load (VL) copies/mL			<.0001
HIV VL copies/mL			<.0001
<50	35230 (83.44)	951 (73.04)	
51-1000	3337 (7.90)	155 (11.90)	
1001-10 000	1301 (3.08)	57 (4.38)	
>10 000	1596 (3.78)	69 (5.30)	
<100	760 (1.80)	70 (5.39)	
>100	2.6 [0.4; 6.1]	1.5 [0.4; 4.6]	<.0001
Time with HIV- VL<50 (years)	3829 (8.84)	143 (10.88)	0.01
ART naive	11210 (28.38)	434 (37.09)	<.0001
2 NRTI + boosted PI	13366 (33.84)	315 (26.92)	
2 NRTI + 1 NRTI	7326 (18.56)	120 (10.26)	
2 NRTI + 1 INSTI	7592 (19.22)	301 (25.73)	
Others**	6408 (16.22)	161 (13.75)	0.02
On first-line of ART	9 [3; 17]	11 [3; 16]	0.37
Time exposure to ART (y)	22 [8; 52]	18 [4; 42]	<.0001
Time exposure to the last ART (m)			<.0001
Previous malignant disease	2569 (6.93)	176 (13.39)	<.0001

- Most of patients with incident cancer cases were male and MSM.
- They were significantly older, followed for HIV infection for a longer period of time and presented a higher number of previous cancer.
- Nadir CD4, median CD4, CD8 count and CD4:CD8 ratio were significantly lower.

Table 2- Characteristics of patients with the most frequent Non AIDS-defining cancers

Characteristics	Broncho Pulmonary N=90	Hepato Carcinoma N=93	Hodgkin Lymphoma N=82	Anal Carcinoma N=53	Breast N=54	Colo-Rectal N=38	Prostate N=111	Head And Neck N=54	p
Female	21 (23.33)	20 (20.86)	9 (10.98)	12 (22.64)	50 (92.59)	10 (26.32)	0 (0.00)	12 (22.22)	<.0001
Male	69 (76.67)	73 (79.13)	73 (89.02)	41 (77.36)	4 (7.41)	28 (73.68)	111 (100.00)	42 (77.78)	
Age	54 [49; 63]	54 [49; 58]	45 [39; 51]	50 [45; 55]	57 [50; 66]	57 [50; 66]	64 [57; 70]	53 [20; 59]	<.0001
Nadir CD4 cell count/mm ³	144 [38; 274]	133 [74; 244]	141 [24; 243]	96 [23; 188]	229 [17; 219]	102 [98; 263]	111 [38; 242]	111 [38; 242]	0.004
<200/mm ³	34 (37.78)	33 (34.38)	28 (34.15)	12 (22.64)	32 (89.26)	11 (28.95)	48 (41.44)	18 (33.33)	0.01
>200/mm ³	56 (62.22)	60 (65.62)	54 (65.85)	41 (77.36)	22 (40.74)	27 (71.05)	65 (60.04)	36 (66.67)	
CD4 T cell count/mm ³	506 [273; 702]	454 [245; 587]	339 [176; 563]	408 [217; 575]	717 [408; 913]	446 [217; 659]	446 [217; 659]	443 [276; 587]	<.0001
<200/mm ³	12 (13.33)	21 (21.88)	24 (29.27)	10 (18.57)	11 (8.57)	5 (13.16)	5 (4.50)	8 (15.09)	0.0002
201 - 500/mm ³	34 (37.78)	33 (36.46)	31 (37.80)	20 (37.74)	33 (63.81)	17 (44.74)	48 (41.44)	21 (38.89)	
>500/mm ³	45 (50.00)	40 (41.67)	27 (32.93)	23 (43.40)	35 (64.85)	16 (42.11)	50 (54.05)	24 (45.22)	
CD8 T cell count/mm ³	788 [558; 1122]	653 [436; 966]	623 [350; 918]	648 [371; 1240]	848 [443; 974]	752 [500; 962]	720 [500; 962]	799 [569; 1104]	0.003
<500/mm ³	0.40 [0.00; 0.86]	0.39 [0.00; 0.86]	0.34 [0.00; 0.86]	0.27 [0.00; 0.86]	0.39 [0.00; 0.86]	0.51 [0.00; 0.86]	0.41 [0.00; 0.86]	0.41 [0.00; 0.86]	<.0001
>500/mm ³	74 (83.15)	73 (76.04)	70 (85.37)	47 (90.38)	28 (81.65)	32 (86.49)	74 (66.67)	48 (94.12)	<.0001

CONCLUSION

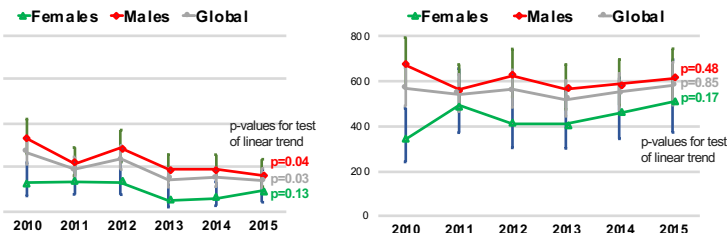
The incidence of Non-AIDS defining cancers remained relatively stable over the 2010-2015 period, overall and for both sexes, whereas AIDS-defining cancer incidence decreased significantly in men and overall. Distribution of cancer cases differed by sex, with AIDS-defining cancers as the most frequent cancers in men and breast cancer in women. With respect to the general population (3,4), no significant difference was observed for colorectal/anal cancer incidence, a significantly higher incidence was detected for liver cancer, Hodgkin lymphoma (overall and in both sexes) and head and neck cancer in women, while a significantly lower incidence was detected for breast, prostate and bronchopulmonary cancers (in men and overall), as recently reported for lung cancer (5). Further analyses are needed to better explore the role that specific risk behaviors such as tobacco and hazardous alcohol use may play on cancer incidence and interact with inflammation.

RESULTS

Cancer incidence rate 2010 - 2015

AIDS-defining cancer
191.4 / 10⁵ Person-Years (PY)
[95% CI: 172.3-212.7]

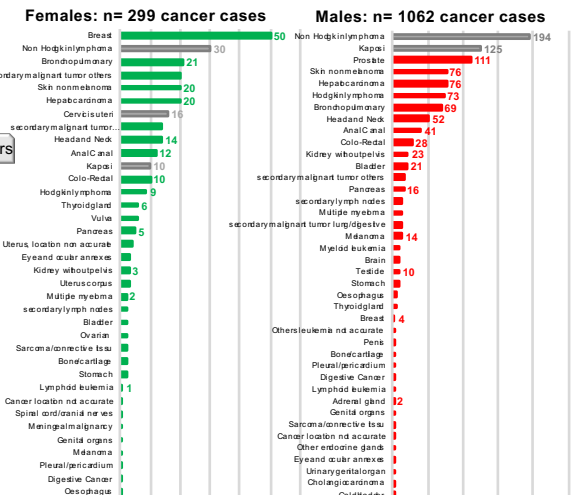
Non AIDS-defining cancer
548.8 / 10⁵ Person-Years (PY)
[95% CI: 515.6-584.1]



Males: 232.9 / 10⁵ PY [95% CI: 207.6-261.4]
Females: 99.7 / 10⁵ PY [95% CI: 76.8-129.6]

Males: 601.3 / 10⁵ PY [95% CI: 559.7-646.0]
Females: 432.8 / 10⁵ PY [95% CI: 381.6-490.7]

Distribution of first incident cancer case 2010-2015



References

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3. S. Kulkarni et al. J Clin Oncol 2016 34:2076-2085
4. Estimation nationale de l'incidence et de la mortalité par cancer en France sur la période 1980-2012. Étude à partir des registres des cancers en France
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