

Introduction

- Chronic pain that is severe enough to require opioid analgesia is experienced by 30% to 50% of patients undertaking active anti-cancer treatment therapy and by 75 to 90 % of those with advanced disease (1,2).
- Cancer pain management' strategies: the most common is the 3 step analgesic ladder developed by WHO 30 years ago: non-opioid analgesics or step I for mild pain, weak opioids or step II for moderate pain, and strong opioids or step III for intense pain (3).
- Nearly half of cancer patients were under-treated and more precisely women, elderly patients and those in precarious situations (5).
- This study is the first longitudinal study to summarize opioid analgesics prescription among cancer survivors using a nationally representative survey database: VICAN 5 survey.

Objectives

- This study aimed to improve understanding of patient paths towards opioid prescribing in a French population in a comparative design. We compared the following two cohorts: VICAN cancer survivors diagnosed at 2010 and followed 5 years after and individuals without cancer sampled from the general beneficiary sample ("Echantillon Généraliste des bénéficiaires", EGB).
- We examined trends of annually and monthly dispensed opioids in 2009-2015, then among cancer survivors only, we attempted to identify patient' characteristics associated with middle and long-term weak and strong opioid prescription.

Methods

- We matched the following two cohorts: cancer survivors followed 5 years after diagnosis in 2010 (N= 6 760) and individuals without cancer (N=6 760).
- Using French health insurance databases on prescribed opioids, we applied conditional Poisson regressions to estimate relative risks for monthly opioids prescription.
- For cancer survivors only (N= 3 055), multivariate negative binomial regressions were then performed to identify factors associated with opioids prescription, focusing on the impact of patient characteristics.

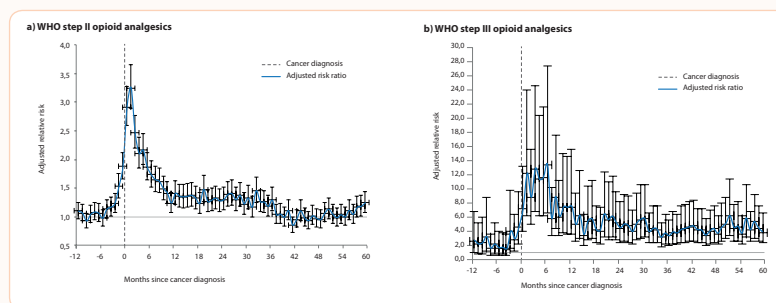
Results

Table 1. Annual prevalence of opioid analgesics' prescriptions in cancer survivors and their matched controls (N = 6 760 cancer survivors matched to individuals without cancer).

	Step II opioids		Step III opioids		Step II/III opioids **	
	Cases VICAN	Matched controls	Cases VICAN	Matched controls	Cases VICAN	Matched controls
Year before cancer diagnosis #,## [%]	31.93 *	25.62	1.47*	0.55	32.21*	25.75
1st year after cancer diagnosis #, [%]	50.07*	23.67	6.55*	0.77	51.03*	23.90
2nd year after cancer diagnosis #, [%]	26.92*	20.09	2.54*	0.74	27.66*	20.22
3rd year after cancer diagnosis #, [%]	24.14*	19.08	2.41*	0.72	25.00*	19.33
4th year after cancer diagnosis #, [%]	20.13	19.25	2.51*	0.77	21.09*	19.56
5th year after cancer diagnosis #, [%]	21.44	20.25	3.02*	0.95	22.54*	20.47

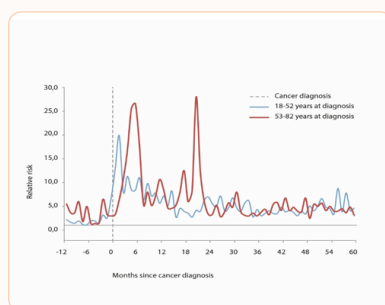
* p<0.001 between cases and controls (Mc Nemar test)
 # For controls, age was determined using their matched case's date of cancer diagnosis as a reference.
 ## Controls and cases were matched on opioid analgesics' prescriptions (yes/no) during the first semester of 2009
 ** Step II +Step III opioids (cumulative and not exclusive prescriptions of step II and step III opioids).

Figure 1. Monthly prescriptions of opioid analgesics – adjusted relative risks and 95% CI (propensity matched cohorts - 6 760 cancer patients matched with controls)



* Adjusted relative risks were estimated with conditional Poisson regressions with robust error variances adjusted for age and sex.

Figure 2. Monthly prescriptions of strong opioid analgesics (WHO step III) –Relative risks* stratified by age (propensity matched cohorts - 6 760 cancer survivors matched with controls)



* Relative risks were estimated with conditional Poisson regressions with robust error variances.

Figure 3. Monthly prescriptions of strong opioid analgesics (WHO step III) –Relative risks stratified by gender (propensity matched cohorts - 6 760 cancer survivors matched with controls)

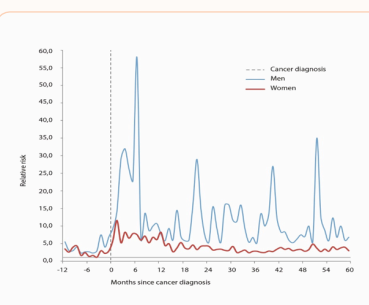


Table 2. Factors associated with WHO Step III opioid analgesics prescription- multivariate Negative Binomial regressions (N = 3 055 cancer survivors)

		Adjusted Incidence Rates Ratios [95% CI]
Gender (ref. Men)	Women	1.05 [0.79 - 1.40]
	50-64	0.78 [0.56 - 1.07]
	65-74	0.45 [0.29 - 0.71]***
Age at cancer diagnosis (ref. 18-49)	75-82	0.97 [0.52 - 1.81]
	Non-Hodgkin lymphoma	1.15 [0.74 - 1.82]
	Melanoma	0.15 [0.09 - 0.25]***
Tumor site (ref. Colorectal cancer)	Lung cancer	2.85 [1.82 - 4.46]***
	Kidney cancer	1.16 [0.71 - 1.90]
	Upper aerodigestive tract cancer	3.23 [2.10 - 4.98]***
Pre-diagnosis somatic multimorbidity score (ref. No comorbidities)	1	1.03 [0.70 - 1.51]
	2	1.83 [1.23 - 2.71]***
	>=3	2.46 [1.65 - 3.46]***
Carstairs index (deprivation level) (ref. Low)	Intermediate	1.51 [1.06 - 2.16]**
	High	2.31 [1.54 - 3.46]***

***, **, *, ns: significant at p<0.001, p<0.01, <0.05, non-significant (multivariate Negative Binomial regressions)

Limits

- The pain for which opioid analgesics were prescribed, has not been clinically diagnosed, the data from French National Health administrative database (SNIIR-AM) on opioids' prescriptions is only a proxy informing about the history of pain treatment.
- The used database contained no information on the indication for prescription. We cannot exclude the possibility that opioids prescribed in cancer survivors may be prescribed for the relief of non-cancer pain.
- Excluding all patients who died within 5 years of diagnosis, could introduce a form of selection bias, since potentially terminal situations and death can be correlated with an over or under-prescription of analgesics.

Conclusion

- Compared to individuals without a cancer history, the prescription of opioid analgesics was higher among cancer survivors.
- If considering opioids prescription as a proxy of pain, cancer survivors are significantly more treated for painful symptoms than the rest of the population.
- Our finding about opioids prescribing' trends is inconsistent with existing literature about the chronicity of pain among cancer survivors in the middle term after diagnosis. This statement rises interrogations about possible changes in pain perception, or inefficiency of opioid analgesics, or about the evolution of cancer pain management' strategies.

References

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