

What is the most relevant period to define synchronous second primary cancers?

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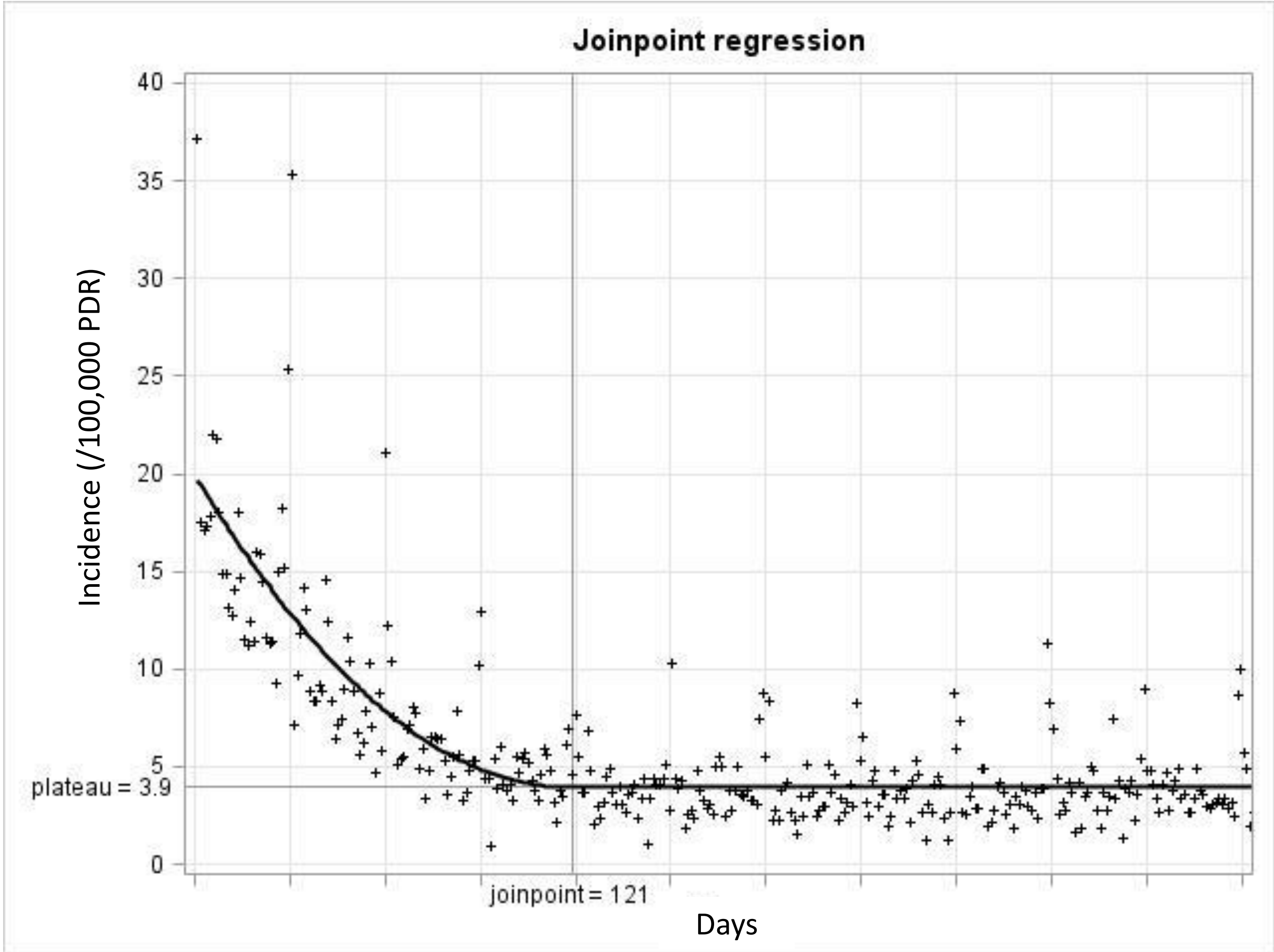
Context

- Studies about second primary cancers (SPC) incidence exclude a period following the first cancer diagnosis given the high probability of diagnosing a SPC during this phase (synchronous cancers)
- The length of this exclusion phase varies according to the authors, ranging from 1 month to 1 year

Objective: To determine the most relevant period to define synchronous SPCs

Results

- 696,775 patients with a first cancer were included, from which 12,643 presented a SPC during the first year of follow-up
- After an initial decay, the instantaneous incidence revealed a constant risk of SPC at 3.9/100,000 person-days at risk (PDR)



- The global joinpoint was at day 121, 95% CI [107.4-134.1]

	Category	Joinpoint	95% CI	Incidence plateau (/100,000 PDR) [95% CI]
All patients		120.7	[107.4-134.1]	3.9 [3.6-4.2]
Gender	Males	128.0	[112.9-143.2]	5.3 [4.8-5.7]
	Females	98.5	[86.9-110.0]	2.3 [2.1-2.5]
Age at first cancer diagnosis	≤ 44 y	101.0	[74.0-128.0]	1.0 [0.8-1.3]
	45 y- 54 y	105.2	[92.0-118.4]	2.5 [2.1-2.8]
	55 y- 64 y	128.3	[111.3-145.3]	3.6 [3.2-4.0]
	65 y- 74 y	139.1	[121.0-157.3]	4.9 [4.3-5.3]
	≥ 75 y	107.5	[92.7-122.2]	5.1 [4.7-5.5]
Calendar period of first cancer diagnosis	1989-1994	108.8	[66.3-151.2]	3.7 [2.7-4.7]
	1995-1999	97.0	[77.4-116.7]	3.7 [3.1-4.2]
	2000-2004	122.3	[109.5-135.1]	3.8 [3.5-4.1]
	2005-2010	142.2	[129.8-154.5]	4.1 [3.8-4.4]

- Great differences were found with respect to the site of first cancer
- Compared to a standard exclusion period of 2 months, the global SIR during the first year decreased from 1.43 to 1.30 when a 4-month exclusion period was used

Site of first primary cancer	Joinpoint	95% CI	Incidence plateau (/100,000 PDR) [95% CI]
Head and neck	103.6	[87.3-119.9]	9.7 [7.8-10.9]
Oesophagus	86.7	[75.5-97.9]	6.4 [4.7-8]
Colon	93.7	[81.3-106.2]	4.1 [3.6-4.6]
Rectum	118.5	[103.9-133.2]	3.7 [3.1-4.4]
Larynx	101.0	[72.0-130.1]	9.6 [7.8-11.3]
Lung, bronchus and trachea	84.5	[69.7-99.2]	3.9 [3.4-4.5]
Breast	106.8	[78.3-135.2]	1.6 [1.4-1.7]
Prostate	201.9	[158.9-244.9]	4.2 [3.7-4.6]
Bladder	247.4	[206.7-288.1]	8.1 [5.8-10.4]
Kidney	88.5	[54.4-122.6]	6.6 [5.7-7.3]
Non-Hodgkin's lymphoma	84.0	[60.2-107.8]	3.4 [2.7-4.0]

Conclusions

Although there is some heterogeneity with respect to patient characteristics, the overall most relevant period to define synchronous SPC seems to be 4 months after the diagnosis of a first cancer.



Methods

- Data from 13 French cancer registries
- All patients presenting a first cancer diagnosed between 1989 and 2010
- The instantaneous incidence was computed by day within 1 year of follow-up after the first cancer diagnosis
- Incidence was modeled by joinpoint regression models with an initial quadratic trend and a second constant part (plateau)
- The joinpoint was the point from which the plateau began
- Estimations of joinpoint were performed for all patients, by gender, age, calendar period of diagnosis and site of first cancer



K2-France Working Group:
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