

Secondary malignancies in Myeloma: an emerging issue?

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Phase III intergroup study of lenalidomide versus placebo maintenance therapy following single autologous stem cell transplant for multiple myeloma: calgb ecog bmt-ctn 100104

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Secondary malignancies in Myeloma

not an emerging issue, a come back

The Chemotherapy of Plasma-Cell Myeloma and the Incidence of Acute Leukemia

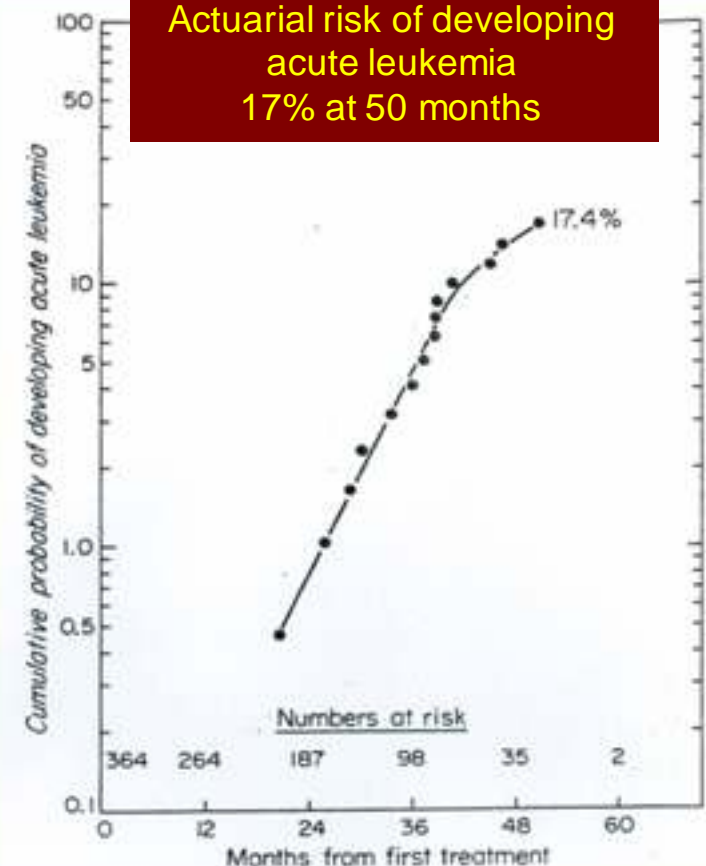
DE. Bergsagel, AJ. Bailey, GR. Langley, RN. MacDonald, DF. White and AB. Miller

N Engl J Med 1979; 301:743-748 [October 4, 1979](#)

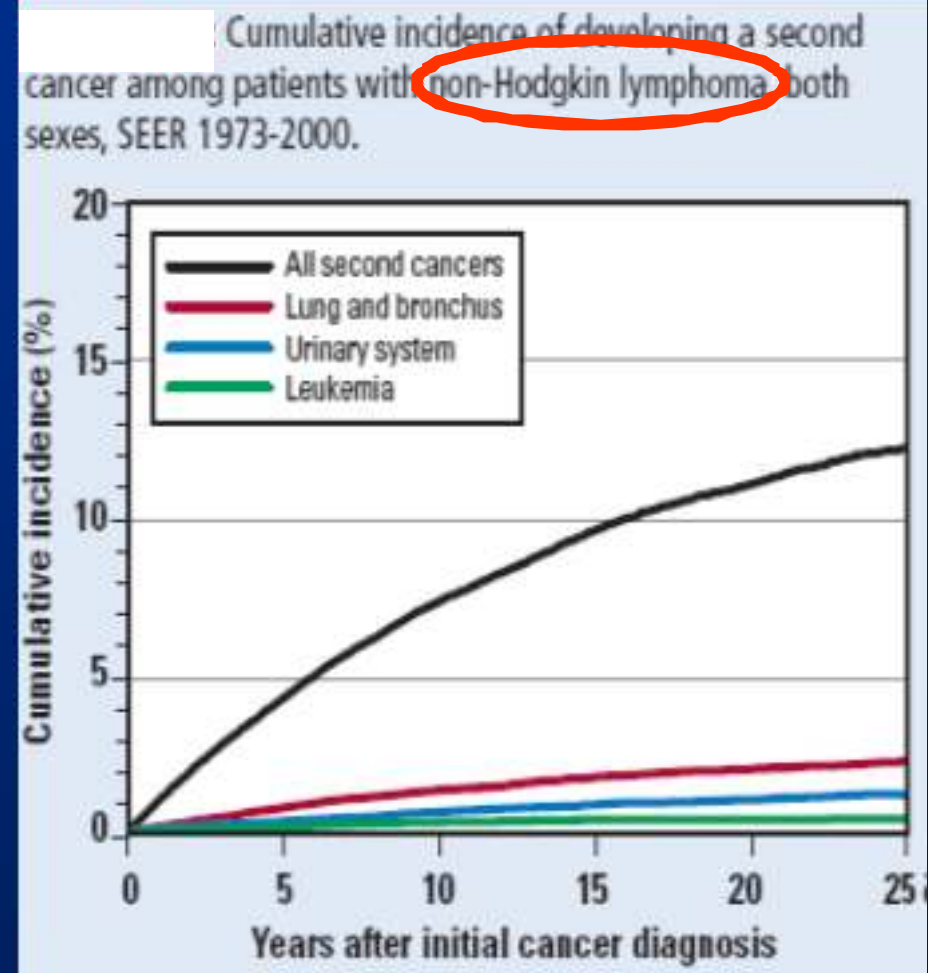
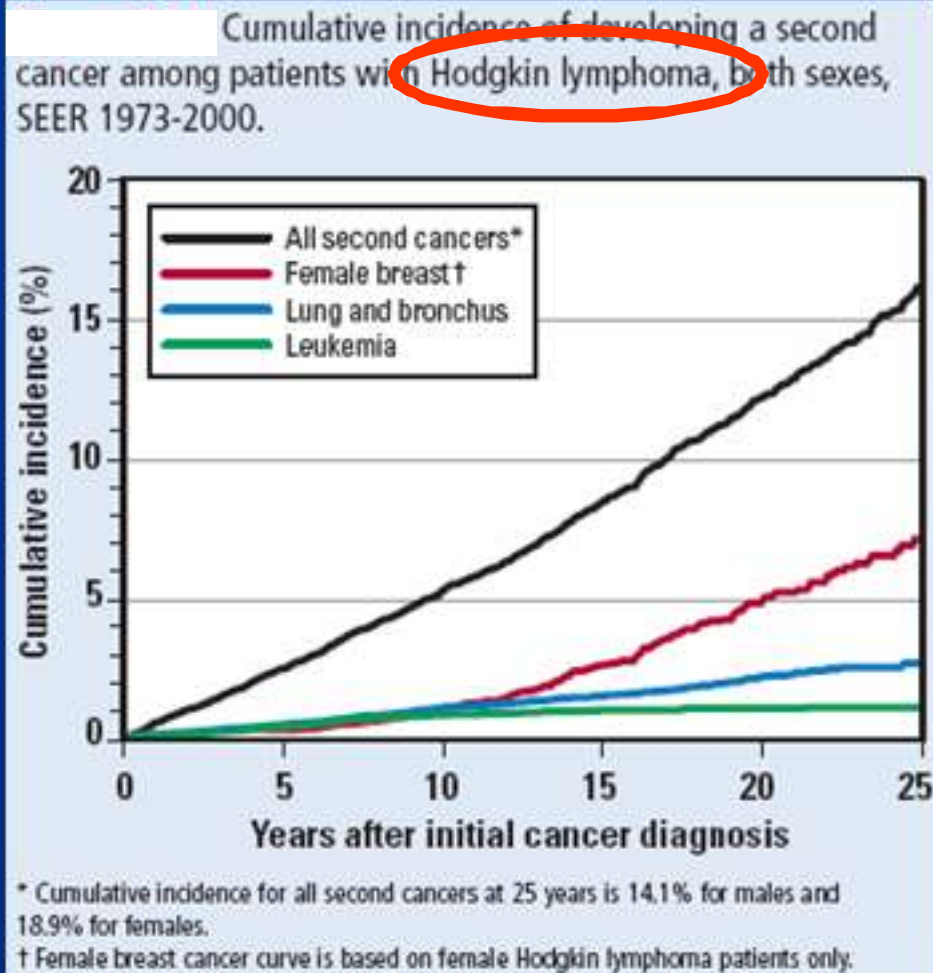
Acute Leukemia in Patients with Myeloma.

AGE GROUP	No. OBSERVED (O)	No. EXPECTED (E)*	O/E
30-54	1	0.0038	263
55-64	7	0.0114	614
65-74	5	0.0279	179
≥75	1	0.0223	45
All ages >30	14	0.0653	214

*Based on incidence data for all forms of acute leukemia in Canada, 1973-75 (Statistics Canada).



New Malignancies Among Cancer Survivors: Surveillance Epidemiology & End Results (SEER) Cancer Registries, 1973-2000



New Malignancies Among Cancer Survivors: Surveillance Epidemiology & End Results (SEER) Cancer Registries, 1973-2000

Risk of subsequent cancers after Myeloma

	Years after first primary cancer diagnosis								Total			
	<1 year		1-4 years		5-9 years		≥10 years		O	E		
Number starting interval	23,838		17,427		4,717		1,046		23,838			
Person-years in interval	16,572		38,645		11,751		4,079		71,047			
Subsequent primary cancer	O	O/E	O	O/E	O	O/E	O	O/E	O	E	O/E	EAR
All subsequent cancers	250	0.88	626	0.93	252	1.17*	91	1.10	1,219	1,255.85	0.97	-5.19

	Observed (O)	Expected (E)	Exp./Obs. (O/E)	Exces absolute risk per 10,000 person-yrs (EAR)
< 70 yrs of age	674	624,11	1,08	10,88
≥ 70 yrs of age	545	631,73	0,86	-34,41
male	460	468,83	0,98	-2,58
female	759	787,02	0,96	-7,60

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Lymphatic, hematopoietic	10	0.79	41	1.37	37	3.89*	6	1.74	94	55.51	1.69*	10.44
Hodgkin lymphoma	2	5.01	0	0.00	0	0.00	0	0.00	2	1.64	1.22	0.10
Non-Hodgkin lymphoma	3	0.58	13	1.05	11	2.75*	3	2.08	30	22.95	1.31	1.91
Myeloma	0	0.00	2	0.36	1	0.55	0	0.00	3	10.51	0.29*	-2.04
Leukemia	5	1.06	26	2.36*	25	7.28*	3	2.46	59	20.41	2.89*	10.47
Acute lymphocytic	0	0.00	0	0.00	0	0.00	1	34.76	1	0.52	1.35	0.13
Chronic lymphocytic	0	0.00	0	0.00*	1	0.72	0	0.00	1	8.31	0.12*	1.98
Acute non-lymphocytic	4	2.59	20	5.52*	21	18.46*	1	2.45	46	6.71	6.85*	0.66
Chronic myeloid	1	1.55	3	2.01	1	2.12	0	0.00	5	2.78	1.80	0.60

New Malignancies Among Cancer Survivors: Surveillance Epidemiology & End Results (SEER) Cancer Registries 1973-2000

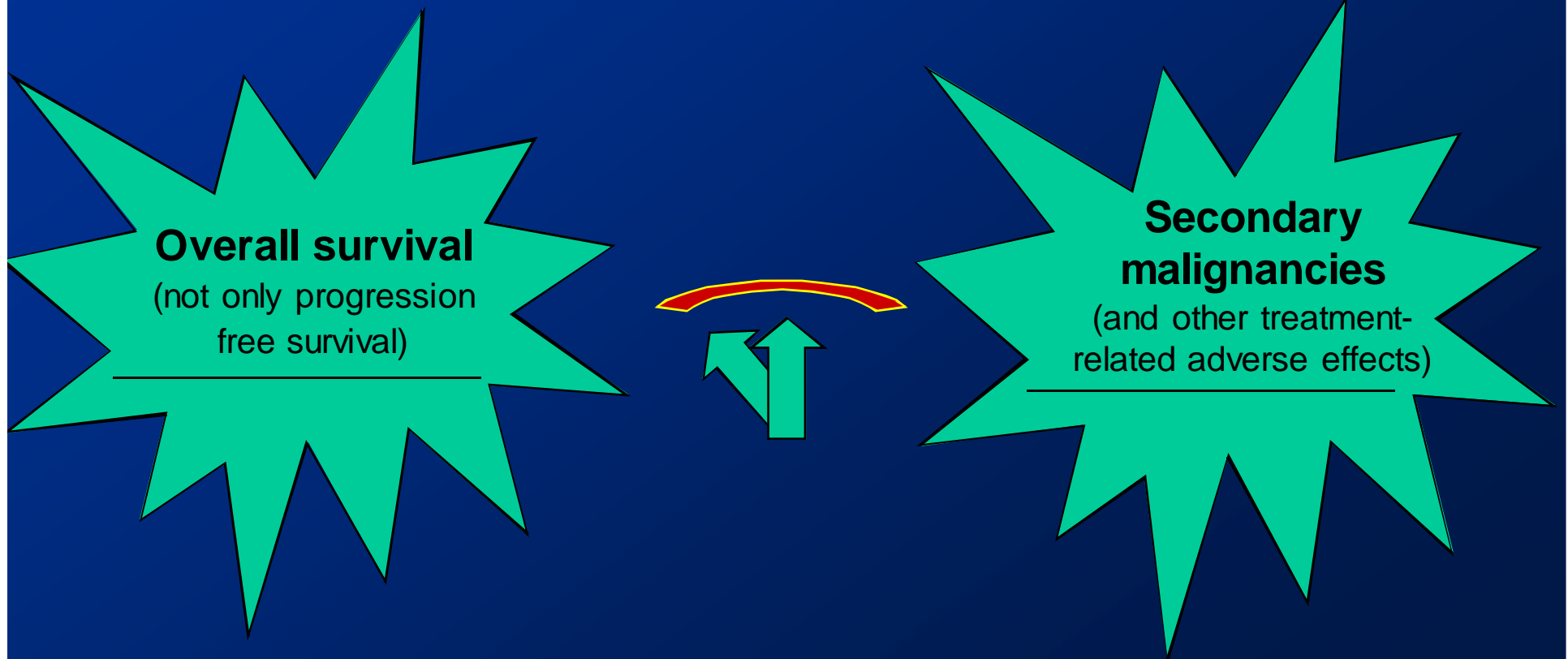
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Chronic myeloid	1	1.56	3	2.01	1	2.13	0	0.00	5	2.78	1.80	0.60

Increased frequency using the new anti-myeloma agents,
particularly the Imids?

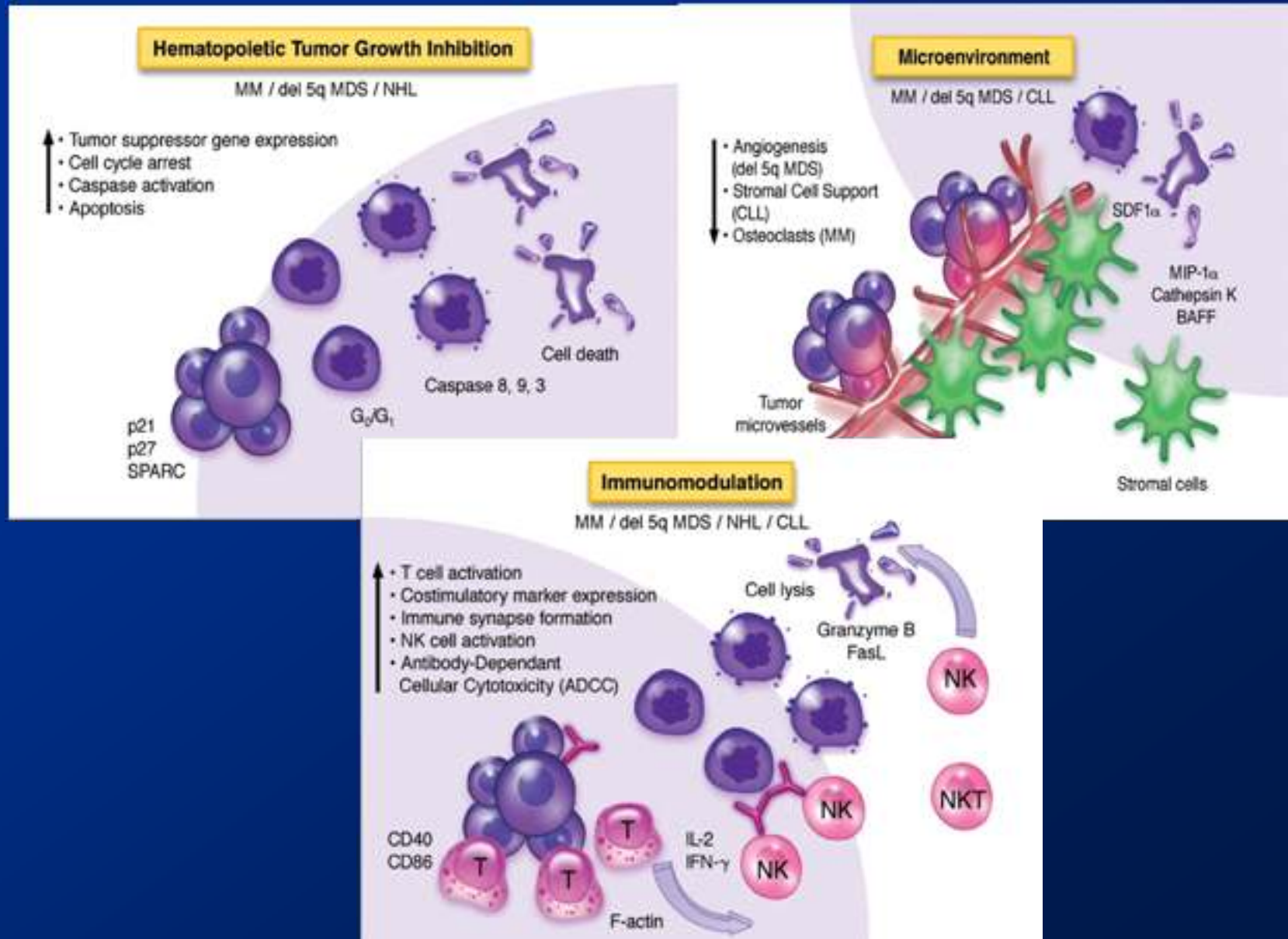


3 randomized placebo-controlled trials



Secondary malignancies in Myeloma: why?

linked to some mechanisms of action of Imids?



Mutagen
effect

Selection
pressure

Chronic
stimulation

Pre-existing
tumor cell
stimulation

Different mechanisms depending on
tumor type?

Risk factors?

- patient or disease related
- treatment related (duration)

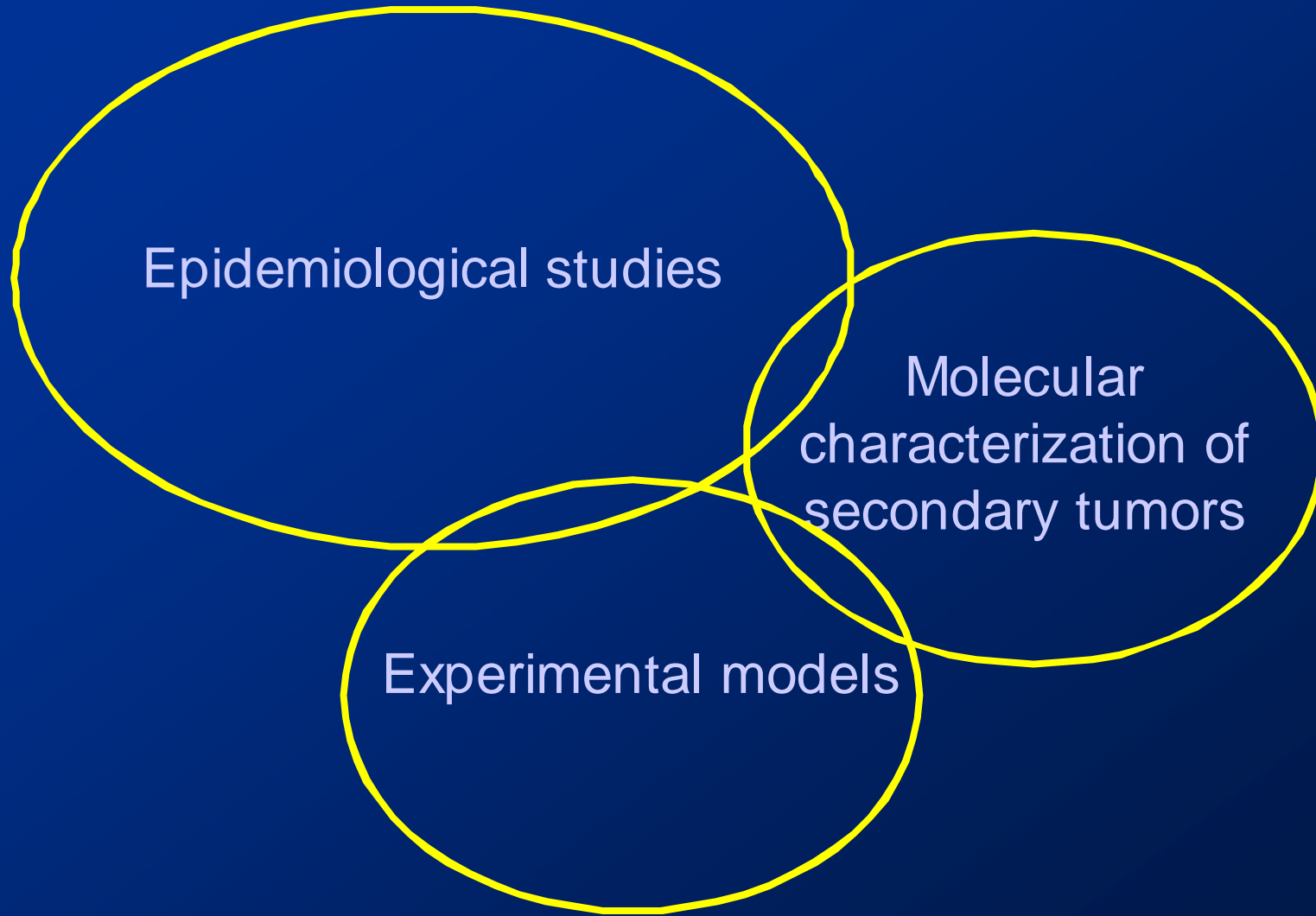
Preventive effect of steroids?

Immune
surveillance/
anti-tumor
immunity failure

Impaired post-
chemo immune
reconstitution

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Conclusions



Thank you for your attention

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