

論文の主な図表

TABLE 9
Observed and Fitted^a Solid Cancer Cases by Dose Category and Attributable Fraction

Dose category ^b	Subjects	Person years	Cases	Background	Fitted excess	Attributable fraction
<0.005	60,792	1,598,944	9,597	9,537	3	0.0%
0.005–0.1	27,789	729,603	4,406	4,374	81	1.8%
0.1–0.2	5,527	145,925	968	910	75	7.6%
0.2–0.5	5,935	153,886	1,144	963	179	15.7%
0.5–1	3,173	81,251	688	493	206	29.5%
1–2	1,647	41,412	460	248	196	44.2%
2–4	564	13,711	185	71	111	61.0%
Total	105,427	2,764,732	17,448	16,595	853	10.7%

^a Estimates of background and fitted excess cases are based on an ERR model with a linear dose response with effect modification by gender, age at exposure and attained age. All not-in-city subjects were used in the modeling, but the baseline risk model allows for city-specific differences in the level of the baseline risks for the not-in-city group.

^b Weighted colon dose in Gy.

^c Attributable fraction among people with dose greater than 0.005 Gy.

TABLE 10
Solid Cancer Radiation-Risk-Model Parameter Estimates

Model	Risk per Gy ^a			Sex ratio (F:M)	Age at exposure ^b (percentage change per decade increase)	Attained age ^b (power)
	Male	Female	Sex-averaged			
All solid cancers						
ERR	0.35 (0.28; 0.43) ^c	0.58 (0.43; 0.69)	0.47 (0.40; 0.54)	1.6 (1.31; 2.09)	-17% (-25%; -7%)	-1.65 (-2.1; -1.2)
EAR	43 ^d (33; 55)	60 (51; 69)	52 (43; 60)	1.4 (1.10; 1.79)	-24% (-32%; -16%)	2.38 (1.9; 2.8)
Non-gender-specific solid cancers ^e						
ERR	0.34 (0.27; 0.42) ^c	0.61 (0.50; 0.73)	0.48 (0.39; 0.56)	1.8 (1.31; 2.09)	-10% (-20%; -1%)	-2.09 (-2.6; -1.5)
EAR	48 ^d (36; 61)	44 (37; 52)	46 (38; 55)	0.9 (0.72; 1.20)	-19% (-29%; -9%)	2.52 (2.0; 3.1)

^a At age 70 after exposure at age 30.

^b Models include both attained-age and age-at-exposure effects.

^c 90% confidence interval.

^d Excess cases per 10,000 per PY Gy.

^e Excludes cancers of the breast, prostate and reproductive organs.

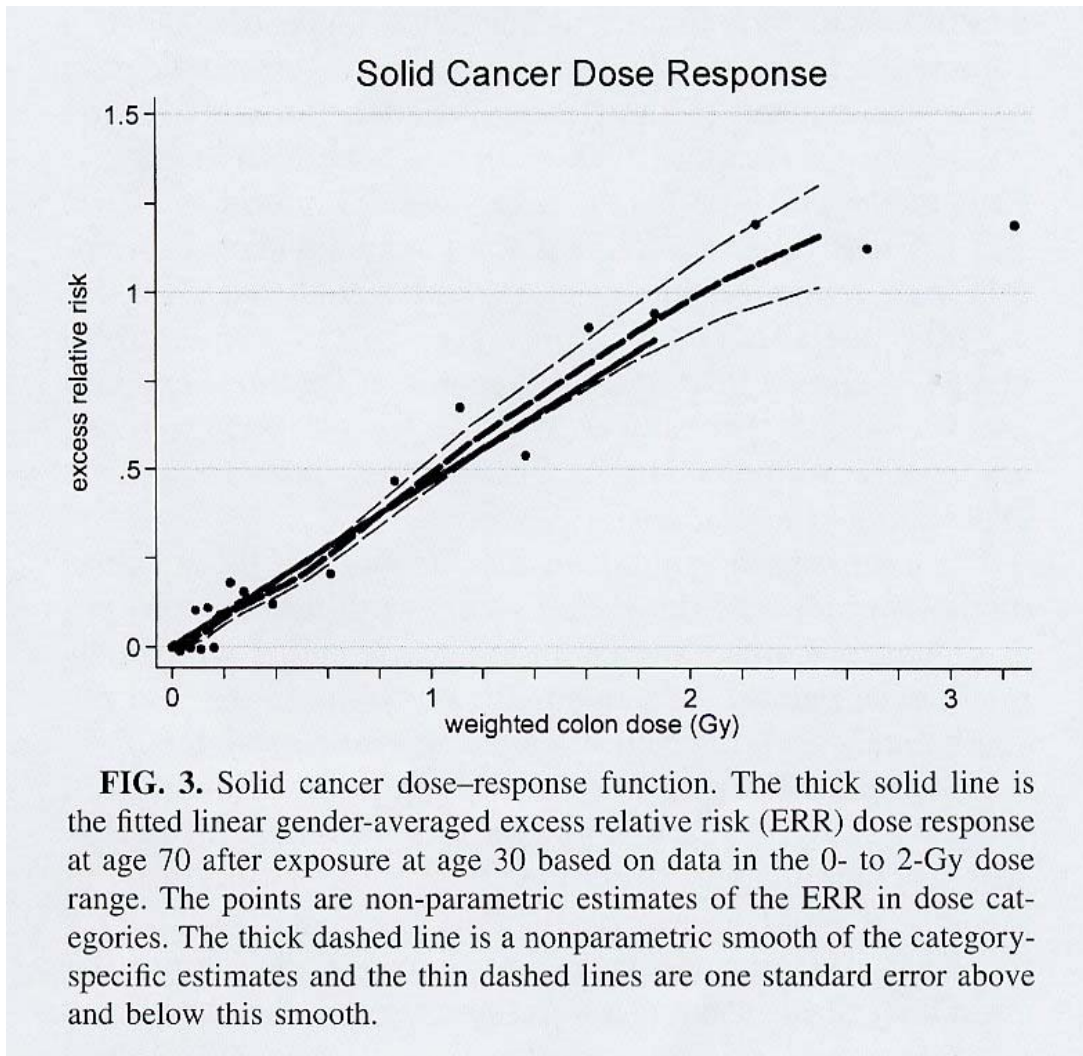


FIG. 3. Solid cancer dose–response function. The thick solid line is the fitted linear gender-averaged excess relative risk (ERR) dose response at age 70 after exposure at age 30 based on data in the 0- to 2-Gy dose range. The points are non-parametric estimates of the ERR in dose categories. The thick dashed line is a nonparametric smooth of the category-specific estimates and the thin dashed lines are one standard error above and below this smooth.

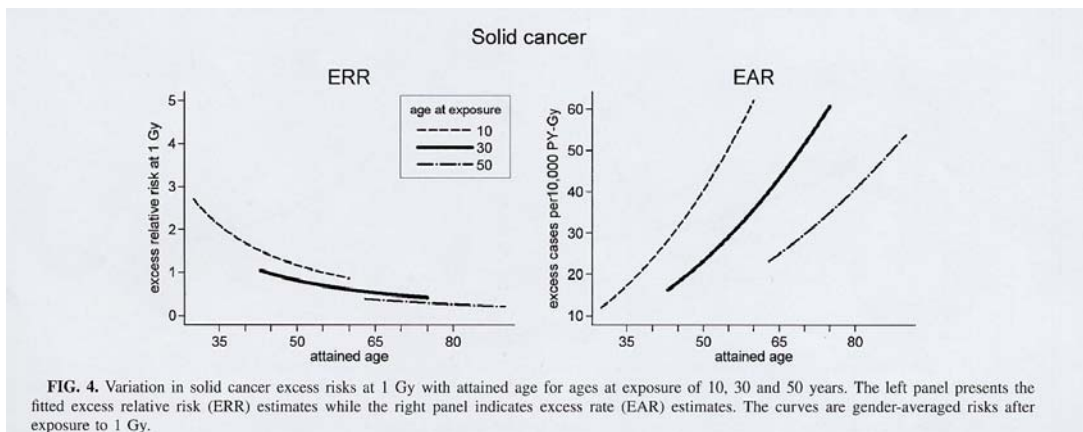


FIG. 4. Variation in solid cancer excess risks at 1 Gy with attained age for ages at exposure of 10, 30 and 50 years. The left panel presents the fitted excess relative risk (ERR) estimates while the right panel indicates excess rate (EAR) estimates. The curves are gender-averaged risks after exposure to 1 Gy.