TN 1052

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LUNG CANCER AND EXPOSURE TO TOBACCO SMOKE IN THE HOUSEHOLD.

To The Editor: Dr.Janerich and his colleagues[1] report a statistically significant increased risk of lung cancer (odds ratio 2.07; 95% confidence interval, 1.16 to 3.38) in men and women who had never smoked but were exposed to 25 or more smoker-years during childhood and adolescence. Although there was no statistically significant increased risk for all never smoking men and women exposed during childhood and adolescence, they suggest that early life environmental tobacco smoke exposure increases risk of lung cancer. This suggestion is unconvincing for a number of reasons. First, it ignores by now quite extensive epidemiological evidence showing a complete lack of association between ETS exposure in childhood and risk of lung cancer. As shown in Table 1, relative risk estimates from 11 studies, many involving substantial numbers of cases and controls, are all non-significant, with as many estimates less than 1.0 as are greater than 1.0. Second, the significance of their reported association is not strong ($0.01<p<0.05$), and is not adjusted for multiple comparisons. Varela's original thesis based on this study[12] and the present paper[1] look at quite a number of indices of ETS exposure in a variety of subgroups of subjects. For ETS exposure at the workplace, in social circumstances, and during adult life from the spouse or other household members, there was no indication whatsoever of a positive relationship with lung cancer. Indeed, ETS in social circumstances, and (in some data subsets) spouse smoking, showed some negative relationship. To base conclusions on the single index which shows a marginally significant positive relationship is an obvious misrepresentation of findings from what is an essentially null study.

Finally, "smoker-years" exposure is an index which, by its very construction, is heavily correlated with the number of persons in the household. Number of persons in the household could be associated with disease risk for numerous reasons, so should clearly have been treated as a potential confounding variable in statistical analysis. The fact that it was not makes any association with the index incapable of a simple interpretation as an indicator of ETS exposure.

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Table 1. Relationship of Childhood ETS Exposure to Lung Cancer Risk among Never Smokers in Eleven Studies*

STUDY	INDEX OF EXPOSURE	SEX	EXPOSED/UNEXPOSED CASES	CONTROLS	ODDS RATIO (95% CI)
Janerich[1]	Smoker in household	M+F	134/57	123/68	1.30(0.85-2.00)
Kabat[2]	Family member smoked	M	21/15	69/36	0.73(0.34-1.59)
		F	36/17	77/61	1.68(0.86-3.27)
Sobue[3]	Father smoked	F	73/47	375/144	0.60(0.40-0.91)
	Mother smoked	F	18/102	46/473	1.71(0.95-3.10)
	Other household member smokes	F	25/95	103/416	1.13(0.69-1.87)
Gao[4]	Lived with smoker	F	436	605	1.1 (0.7-1.7)
Garfinkel[5]	Exposed to smoke of others	F	134	402	0.91(0.74-1.12)
Koo[6]	At home	F	4/84	11/126	0.55(0.17-1.77)
Pershagen[7]	Parents smoked	F	38/9	76/18	1.0 (0.4-2.3)
Svensson[8]	Father smoked	F	12/19	71/98	0.9 (0.4-2.3)
	Mother smoked	F	3/19	5/98	3.3 (0.5-18.8)
Wu[9]	Parents smoked	F	29	62	0.6 (0.2-1.7)
Akiba[10]	Parents smoked	M+F	75	250	"No association"
Correa[11]	Parents smoked	M+F	30	313	"No significant increase in risk"

* M Males F Females CI Confidence Interval NA Not available Where numbers of exposed and unexposed cases and controls are not separately available, total cases and controls are given. Numbers for Akiba and Pershagen studies are approximate. Odds ratios in studies 1, 2 and 6 are unadjusted; those in other studies are adjusted for age and other risk factors, as described in the papers cited. Parental exposure in the Pershagen study only was not restricted to childhood.

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