observer bias were speculative. Our study was a necessary and informative precursor to more extensive comparisons which we are currently conducting.

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Cigarette smoking and benign breast disease

SIR—Berkowitz et al\(^1\) report a reduced risk of benign breast disease (both fibrocystic disease and fibroadenoma) in current cigarette smokers on the basis of a case-control study involving hospital patients. We summarise here our findings in the Oxford-Family Planning Association (Oxford-FPA) contraceptive study.\(^2\)

The Oxford-FPA study involves the long-term follow-up of over 17 000 white, married women who were aged 25–39 years when they were recruited at 17 family planning clinics during the period 1968–74. During follow-up, all outpatient and inpatient hospital visits experienced by the study participants are identified and diagnoses are coded according to the 8th Revision of the International Classification of Diseases (ICD). Changes in contraceptive use are also recorded. Smoking habit, weight, height, social class, and many other variables were noted for each woman on entry to the study.

The table presents first hospital visit rates, both inpatient and total, for ICD codes 217 (benign neoplasm of the breast, principally fibroadenoma) and 610 (chronic cystic disease of the breast). The data are given combined because the results were closely similar for the two diagnostic groups. The rates are shown crude and adjusted (by indirect standardisation) for age (four groups), oral contraceptive use (current, past, never), social class (three groups), and Quetelet's index (six groups). An earlier analysis had shown these to be the most important “risk factors” for benign breast disease in our study.\(^3\)

The data provide no indication of any reduction in the risk of benign breast disease in smokers; indeed, it is the non-smokers who have the lowest rates. It is unlikely that there has been sufficient change in the smoking habits of women within the cohort to have obscured a protective effect since we have shown smoking to be related quite clearly to a number of other diseases.\(^4\)\(^5\) It is, of course, true that the great majority of women in our study are still premenopausal, while Berkowitz et al\(^1\) found the negative association between current cigarette smoking and benign breast disease to be stronger in postmenopausal women; nonetheless, they did still find the association to hold in the premenopausal group. We suggest that the results obtained by Berkowitz et al\(^1\) reflect the use of hospital controls (see Baron\(^6\)), perhaps compounded by inexact age matching and the loss of subjects from socially deprived areas.

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References


First hospital visit rates (per 1000 woman-years) for benign breast disease (ICD codes 217, 610) according to smoking habit at entry to the Oxford-FPA study.

<table>
<thead>
<tr>
<th>Smoking habit</th>
<th>No. of women</th>
<th>Crude rate</th>
<th>Adjusted rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>317</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Ex.</td>
<td>71</td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>1–14 cigs/day</td>
<td>111</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>15+ cigs/day</td>
<td>71</td>
<td>2.5</td>
<td>2.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of women</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>663</td>
</tr>
<tr>
<td>155</td>
</tr>
<tr>
<td>212</td>
</tr>
<tr>
<td>163</td>
</tr>
</tbody>
</table>

*See text
SIR—Mant et al have expressed concern that the use of hospital controls, "inexact age matching and the loss of subjects from socially deprived areas", may be responsible for our finding of a negative association between current cigarette smoking and the risk of benign breast disease. Since our results were not altered when age was included as a continuous variable in logistic regression models, we do not understand how differences in the age distribution of the cases and controls could have influenced our results. We are similarly unclear how the loss of subjects from areas designated by the local police department as unsafe for home interviews could have affected our results since there is no reason to believe that the cases who were excluded would be more likely to be current smokers than the controls who were excluded. Furthermore, this exclusion resulted in the loss of less than 2% of the cases and controls.

In our paper, we did express a similar concern to that of Mant et al regarding the use of hospital controls. However, we attempted to minimise potential selection biases by examining the influence of a large number of potential confounders, including indices of medical care utilisation and the practice of breast self-examination, but the odds ratios were not materially altered in these analyses. In addition, we reported that the inverse association with current smoking was evident for both inpatients and outpatients as well as when the cases were compared to a subgroup of controls with acute surgical conditions.

Since we found no evidence that former smokers were at a reduced risk of benign breast disease, we believe that it is important to ascertain smoking status at the time of diagnosis. At least in the United States, the proportion of ex-smokers among women aged 20 years and older has virtually doubled between 1965 and 1980. The proportion of ex-smokers (13%) among the cases in the data presented from the Oxford-FPA study is considerably lower than that obtained among our cases (23%). Since cigarette smoking has been found to alter the risk of several oestrogen-related disorders and since benign breast disease is believed to be hormonally related, the inverse association with current cigarette smoking that we observed appears to be biologically plausible.

However, in light of the difficulty of choosing an appropriate control group for studying benign breast diseases, we welcome further data to substantiate or refute our findings.

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References

Low tar means less tar
SIR—Dr M A H Russell et al (1986; 40:80–3) conclude, from the measurement of plasma nicotine, plasma cotinine, and COHb%, that despite "compensation"