Mortality among British veterinary surgeons

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Abstract

A total of 3440 veterinary surgeons resident in Britain were followed up from 1949-53 until 1975. A roughly twofold increase in mortality from suicide was observed and also a decreased mortality from respiratory diseases. There was no excess of deaths from leukaemia or other cancers as recently reported from the United States and as implied by the hypothesis that veterinary surgeons are unusually exposed to oncogenic viruses.

Introduction

Veterinary surgeons are likely to be more than usually exposed to the viruses that cause Marek's disease, feline lymphomas, bovine lymphosarcoma, and other animal tumours. If any such animal viruses caused cancer in man an increased mortality from cancer might occur among veterinary surgeons. I therefore carried out a prospective study of mortality among British veterinary surgeons.

References


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mortality for England and Wales, both for all men and for men in social class I. Mortality among men in social class I is available only for the years around the decennial censuses and for ages below 75. The mortalities recorded in social class I by the Registrar General in the period 1949-53 were applied to the man years before 1956, the mortalities for 1959-61 to those in the period 1956-66, and the mortalities for 1970-2 to those in the period 1967-75.

Results

The study group consisted of 3440 male veterinary surgeons, the number of women being judged too few to warrant detailed study. These men were followed up until the end of 1975, by which time 1236 had died in the United Kingdom, 35 had emigrated, 25 were untraced, and 2144 were still living in all contributing 70 670 man years for analysis. Table I shows the numbers of individuals at entry to the study together with the man years at risk over the study period, according to age group.

Table II shows the observed and expected numbers of deaths from major causes among men. A deficiency of deaths from all causes was apparent, the ratio of observed to expected numbers of deaths being 0.92. This was mainly due to a low mortality from cancer and respiratory diseases. When expected numbers were calculated using mortalities in social class I (table III), however, only the deficiency of respiratory diseases persisted (p<0.05). Among the major causes of death examined only accidents and violence showed an excess mortality over both national figures (69 observed, 49.8 expected) and figures for social class I. This was due to an increased mortality from suicide (27 observed against 13.1 expected from social class I mortality, of which five deaths were from gunshot wounds compared to 1.5 expected). No death was attributed to injuries caused by an animal in the course of work, though two deaths were caused by riding accidents.

Table IV shows the observed and expected numbers of deaths from different cancers. Mortality from lung cancer was lower (61 observed, 93.8 expected) and mortality from cancer of the prostate higher than expected (29 observed, 18.7 expected). When the analysis was repeated using social class I mortalities, however, these differences disappeared (table V). There was no excess of deaths from leukaemia or lymphoma.

Because of interest in a possible link between dogs and multiple sclerosis mortality from this disease was also examined, but no excess of deaths was apparent (two observed v 1.9 expected). (In two other cases multiple sclerosis was mentioned on the second part of the death certificate.) No death was attributed to brucellosis, though this was mentioned on the second part of the certificate in two cases.

<table>
<thead>
<tr>
<th>Site or type of cancer*</th>
<th>Observed No</th>
<th>Expected No</th>
<th>Ratio of observed to expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung (162,163)</td>
<td>61</td>
<td>93.78</td>
<td>0.65</td>
</tr>
<tr>
<td>Oesophagus (150)</td>
<td>4</td>
<td>7.66</td>
<td>0.52</td>
</tr>
<tr>
<td>Stomach (151)</td>
<td>26</td>
<td>37.91</td>
<td>0.69</td>
</tr>
<tr>
<td>Colon (152)</td>
<td>21</td>
<td>29.38</td>
<td>0.71</td>
</tr>
<tr>
<td>Rectum (154)</td>
<td>14</td>
<td>16.18</td>
<td>0.87</td>
</tr>
<tr>
<td>Bladder (181)</td>
<td>8</td>
<td>11.22</td>
<td>0.71</td>
</tr>
<tr>
<td>Prostate (177)</td>
<td>29</td>
<td>18.67</td>
<td>1.55</td>
</tr>
<tr>
<td>Leukaemia (204)</td>
<td>11</td>
<td>13.30</td>
<td>0.83</td>
</tr>
<tr>
<td>Lymphoma (300-202)</td>
<td>11</td>
<td>14.48</td>
<td>0.77</td>
</tr>
<tr>
<td>Other cancers</td>
<td>48</td>
<td>44.84</td>
<td>1.09</td>
</tr>
</tbody>
</table>

All cancers (140-239) 228 271.43 0.84

* Codes in International Classification of Diseases (7th revision) given in parentheses.

Table V—Numbers of deaths from cancer among veterinary surgeons aged under 75, and expected numbers calculated from mortality in social class I

<table>
<thead>
<tr>
<th>Site or type of cancer*</th>
<th>Observed No</th>
<th>Expected No</th>
<th>Ratio of observed to expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung (162,163)</td>
<td>56</td>
<td>51.68</td>
<td>1.08</td>
</tr>
<tr>
<td>Oesophagus (150)</td>
<td>3</td>
<td>4.95</td>
<td>0.61</td>
</tr>
<tr>
<td>Stomach (151)</td>
<td>16</td>
<td>15.94</td>
<td>1.00</td>
</tr>
<tr>
<td>Bladder (181)</td>
<td>4</td>
<td>6.98</td>
<td>0.57</td>
</tr>
<tr>
<td>Prostate (177)</td>
<td>8</td>
<td>10.25</td>
<td>0.78</td>
</tr>
<tr>
<td>Leukaemia (204)</td>
<td>4</td>
<td>5.22</td>
<td>0.77</td>
</tr>
<tr>
<td>Lymphoma (300-202)</td>
<td>3</td>
<td>4.42</td>
<td>0.69</td>
</tr>
<tr>
<td>Other cancers</td>
<td>68</td>
<td>66.76</td>
<td>1.02</td>
</tr>
</tbody>
</table>

All cancers (140-239) 162 167.61 0.97

* Codes in International Classification of Diseases (7th revision) given in parentheses.

Discussion

Veterinary surgeons are sometimes exposed to animals with malignant disease caused by viruses, such as Marek’s disease and feline lymphoma. Thus they might be at increased risk of developing cancer if any such animal viruses caused cancer in man. At the outset of this study I noted that an excess of deaths from leukaemia had been recorded by the Registrar General during 1959-63 in the occupational category that included veterinary surgeons.1 Although based on small numbers (nine observed deaths against five expected), this might have pointed to a larger risk among veterinary surgeons, who form only a small proportion of the group in question (“other professional workers”). More recently an increased mortality from leukaemia (45 observed deaths compared with 34.7 expected) has been reported in a proportionate analysis of deaths among veterinary surgeons in the United States in the period 1947-77.2 It was suggested that this excess was due to inadequate protective procedures in diagnostic radiology in veterinary practice. The present study, however, found no evidence that British veterinary surgeons have an increased risk of death from leukaemia or indeed from any form of cancer.

By contrast, the American study found an excess mortality...
Precancerous lesions of the cervix uteri in infertile women

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Abstract
A study of 318 patients with tubal infertility and a control group of 200 unselected infertile women yielded 14 (4.4%) and 1 (0.5%), respectively, with precancerous lesions of the cervix uteri. The one patient in the control group with severe dysplasia was later shown to have tubal infertility. The overall incidence of premalignant lesions of the cervix uteri as reported to the National Cancer Registry of Norway was 0.1% for the age group and period studied.

Women with tubal infertility represent a small but comparatively high risk group for the development of precancerous lesions of the cervix uteri.

Introduction
In Norway cervical neoplasia is the most common cancer of the female reproductive tract. Each year about 400 new cases of invasive cervical cancer and 800 to 900 cases of severe dysplasia and carcinoma in situ of the cervix uteri are reported to the National Cancer Registry. Some 70% of these are in women aged 20-39 years. Cervical neoplasia is of special interest because it may be detected early by cytological screening. Hence defining populations at high risk of developing cervical cancer would help in reducing the incidence of the disease.

Several aetiologic factors have been postulated in cervical carcinogenesis. There is much evidence suggesting that a sexually transmitted virus—for example, herpes simplex virus—may be implicated. The virus of condyloma accuminatum is also reportedly associated with cervical neoplasia. Other sexually transmitted diseases that have been postulated as a factor include syphilis, gonorrhoea, and trichomoniasis and genital infections with mycoplasma, chlamydia, and cytomegalovirus. Also associated with an increased risk of the disease are early age at first intercourse and early age at first marriage, multiparous sexual partners and multiple marriages, great coital frequency, multiparity, and low social class. A circumcised male partner is reportedly associated with a low risk of cervical cancer. An increased risk from oral contraceptives has not been proved.

In women with tubal infertility many of these risk factors

References

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