3.12 Mesothelioma

Table 3.12.1
Overview of key epidemiological parameters for Germany, ICD-10 C45

<table>
<thead>
<tr>
<th>Incidence</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
<td>2014</td>
<td>Prediction for 2018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Incident cases</td>
<td>1,370</td>
<td>350</td>
<td>1,290</td>
<td>310</td>
<td>1,380</td>
<td>340</td>
</tr>
<tr>
<td>Crude incidence rate¹</td>
<td>3.5</td>
<td>0.9</td>
<td>3.3</td>
<td>0.7</td>
<td>3.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Standardised incidence rate¹ ²</td>
<td>2.1</td>
<td>0.5</td>
<td>1.9</td>
<td>0.4</td>
<td>1.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Median age at diagnosis</td>
<td>73</td>
<td>73</td>
<td>74</td>
<td>75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mortality</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
<td>2014</td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Deaths</td>
<td>1,157</td>
<td>297</td>
<td>1,151</td>
<td>277</td>
<td>1,128</td>
<td>305</td>
</tr>
<tr>
<td>Crude mortality rate¹</td>
<td>2.9</td>
<td>0.7</td>
<td>2.9</td>
<td>0.7</td>
<td>2.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Standardised mortality rate¹ ²</td>
<td>1.7</td>
<td>0.4</td>
<td>1.7</td>
<td>0.3</td>
<td>1.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Median age at death</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>76</td>
<td>76</td>
<td>76</td>
</tr>
</tbody>
</table>

¹ per 100,000 persons  ² age-standardised (old European Standard)

<table>
<thead>
<tr>
<th>Prevalence and survival rates</th>
<th>after 5 years</th>
<th>after 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence</td>
<td>1,700</td>
<td>2,000</td>
</tr>
<tr>
<td>Absolute survival rate (2013–2014)³</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Relative survival rate (2013–2014)³</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

³ in percentages (lowest and highest value of the included German federal states)

Epidemiology

Malignant mesothelioma refers to a rare soft-tissue tumour that mainly occurs among elderly men. The pleura is affected in about 90% of cases. In 2014, about 1,290 men and 310 women developed this disease in Germany.

The long latency period between exposure and illness means that despite the fact that more than 20 years have passed since asbestos processing was banned in Germany, a clear decline in age-standardised disease or death rates has yet to be seen. However, morbidity and mortality rates among men under the age of 65 years have declined markedly during this period, while they continued to rise among higher age groups until a few years ago.

Comparatively high morbidity rates continue to occur in northwest Germany in locations where the shipbuilding industry was located and partly in those linked to the steel industry (such as in Bremen, Hamburg, Kiel and the Ruhr region). Populations in regions where asbestos products were produced are also occasionally affected. Mesotheliomas have a very unfavourable prognosis, with 5-year relative survival rates of just 8% in men and 17% in women. As such, the number of deaths from this type of cancer is only slightly less than the number of new cases.

Risk factors

Even though Germany banned the processing of asbestos in 1993 (and an EU-wide ban soon followed), the inhalation of asbestos fibres still remains the main cause of the majority of newly diagnosed cases of mesothelioma. This is due to an average latency period between exposure and cancer diagnosis of over 30 years on average. The affected occupational groups include metalworkers, welders, electricians, plumbers, roofers, bricklayers, construction workers, automotive engineers and tilers. Every year, Germany’s employer liability insurance associations recognise approximately 1,000 newly diagnosed cases. Even in cases where an occupation-related exposition to asbestos cannot be determined, X-rays and tissue samples will often provide evidence for an asbestos contamination.

Loosely bound asbestos with high fibre content is particularly dangerous. By contrast, provided it remains intact, asbestos-cement, which is found even today both in and on buildings, is deemed largely safe.

Further risk factors play only a subordinate role. Among them are exposure to other fibres such as Erionit or radiotherapy (of breast and abdomen).
**Figure 3.12.1a**
Age-standardised incidence and mortality rates, by sex, ICD-10 C45, Germany 1999 – 2014/2015
per 100,000 (old European Standard)

**Figure 3.12.1b**
Absolute numbers of incident cases and deaths, by sex, ICD-10 C45, Germany 1999 – 2014/2015

**Figure 3.12.2**
Age-specific incidence rates by sex, ICD-10 C45, Germany 2013 – 2014
per 100,000

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Incidence rate:
- Men
- Women

Mortality rate:
- Men
- Women

Incident cases:
- Men
- Women

Deaths:
- Men
- Women

Age group:
- 0–4
- 5–9
- 10–14
- 15–19
- 20–24
- 25–29
- 30–34
- 35–39
- 40–44
- 45–49
- 50–54
- 55–59
- 60–64
- 65–69
- 70–74
- 75–79
- 80–84
- 85+

Men | Women
### Table 3.12.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C45, database 2014

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Risk of developing cancer</th>
<th>Mortality risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men aged in the next ten years ever</td>
<td>Men aged in the next ten years ever</td>
</tr>
<tr>
<td>35 years</td>
<td>&lt;0.1% (1 in 50,000) 0.3% (1 in 360)</td>
<td>&lt;0.1% (1 in 160,000) 0.1% (1 in 1,000)</td>
</tr>
<tr>
<td>45 years</td>
<td>&lt;0.1% (1 in 11,000) 0.3% (1 in 360)</td>
<td>&lt;0.1% (1 in 20,000) 0.2% (1 in 360)</td>
</tr>
<tr>
<td>55 years</td>
<td>&lt;0.1% (1 in 2,900) 0.3% (1 in 350)</td>
<td>&lt;0.1% (1 in 4,100) 0.2% (1 in 360)</td>
</tr>
<tr>
<td>65 years</td>
<td>0.1% (1 in 910) 0.3% (1 in 360)</td>
<td>0.1% (1 in 1,000) 0.3% (1 in 360)</td>
</tr>
<tr>
<td>75 years</td>
<td>0.2% (1 in 650) 0.2% (1 in 480)</td>
<td>0.1% (1 in 700) 0.2% (1 in 360)</td>
</tr>
<tr>
<td>Lifetime risk</td>
<td>0.3% (1 in 360)</td>
<td>0.2% (1 in 460)</td>
</tr>
</tbody>
</table>

### Figure 3.12.3
Distribution of T-stages at first diagnosis by sex
*Not presented due to the large proportion of missing data.*

### Figure 3.12.4a
Absolute survival rates up to 10 years after first diagnosis, by sex, ICD-10 C45, Germany 2013–2014

### Figure 3.12.4b
Relative survival rates up to 10 years after first diagnosis, by sex, ICD-10 C45, Germany 2013–2014
Figure 3.12.5
Registered age-standardised incidence and mortality rates in German federal states, by sex, ICD-10 C45, 2013–2014
per 100,000 (old European Standard)

Figure 3.12.6
International comparison of age-standardised incidence and mortality rates, by sex, ICD-10 C45, 2013–2014 or latest available year (details and sources, see appendix)
per 100,000 (old European Standard)

1 data incl. C38.4 (Malignant neoplasm of Pleura)
2 no data for incidence
3 mortality only 2013