The ASMR for cancer of the oesophagus in men was 5.3 in 1963 and 4.7 in 1982, while the respective figures for women were 1.5 and 0.8. Cancers of the oesophagus are more frequent in men than in women. Mortality of men increases rapidly after the age of 40 to reach the maximum of 50 cases per 100,000 in men aged about 75. The mortality rate in younger age groups has declined with calendar time only for women; in men, especially after 1970, we observe an increase. In the 50–64 age group, the mortality rate has declined for both sexes with calendar time. A decreasing risk of cancer of the oesophagus is also observed in the successive birth cohorts of men and women alike, though not in cohorts born after 1920.

In 1978 the highest mortality rate from oesophageal cancer in European men was reported in France (13.6) where the rate was nearly twice as high as the second highest rate in Luxembourg (7.9). Europe’s lowest mortality rates were in Bulgaria (1.2), Iceland (1.6) and Romania (1.6). Outside Europe, Uruguay, Singapore and Hong Kong had the same mortality rates as France. Oesophageal cancer was most frequent in Asia in Iran, the southern part of the Soviet Union and China, where some regions had incidence rates of up to 50–150. The highest mortality rates in women were observed in the Republic of Ireland (4.1) and Great Britain (from 3.9 in Scotland to 3.0 in England and Wales). The lowest rates in women were found in Czechoslovakia (0.3), Bulgaria (0.5), Romania (0.5) and the German Democratic Republic (0.5). Poland was a country with medium risk in 1978, the rates for men and women being 4.0 and 0.9, respectively.

**Analysis of Data from the Provinces, 1975–1979**

Malignant neoplasms of the oesophagus are more frequent in urban than in rural populations (ratio for men 1.4, women 1.1). It is over four times as frequent in men than in women.

**Men**

(Mean ASMR = 3.9, Range 1.9–6.5, Standard Deviation 0.9; 2.4% of Male Cancer Mortality, Rank 11)

Provinces with the highest rates were Ostroleka (6.50), Lomza (5.50), Suwalki (5.41), Katowice (5.37), Warsaw (5.26) and Slupsk (5.15). Provinces with the lowest rates were Chelm (1.92), Zamosc (2.37), Leszno (2.52), Tarnobrzeg (2.52) and Lublin (2.54). Northeastern Poland had the highest mortality rates. In southern Poland high mortality were found only in the provinces of Katowice and Opole. A low frequency of cancer of the oesophagus is typical in the southeastern provinces, from Biala Podlaska through Lublin and Tarnobrzeg to Nowy Sacz, as well as Leszno, Poznan, Sieradz and Kalisz in the western part of central Poland.

**Women**

(Mean ASMR = 0.9, Range 0.3–1.4, Standard Deviation 0.2; 1.0% of Female Cancer Mortality, Rank 18)

The highest mortality rate in individual provinces was 5.3 times greater than the lowest but the small numbers of cases in some provinces should be taken into account. Provinces with the highest mortality rates were Torun (1.37), Elblag (1.34), Ostroleka (1.24), Legnica (1.22) and Czestochowa (1.16). Provinces with the lowest rates were Chelm (0.26), Lublin (0.46), Gorzow (0.55), Siedlce (0.55) and Plock (0.56). The geographical distribution of women’s mortality rates is less clear-cut than in the case of men. There was an area of higher risk in central Poland. Low rates were observed in southeastern Poland, adjacent to the low-risk region, and in the central-western strip from the province of Gorzow to Wloclawek and Plock.
Comments

The risk of cancer of the oesophagus appears to involve several factors. Long-term observation in Europe and North America associates it with exposure to alcohol and tobacco smoke. These studies show that the consumption of alcohol seems to be the strongest risk factor, increasing in importance with the concentration of alcohol in ingested drinks. Tuyns et al. (1977) postulate the existence of a synergistic effect of alcohol and tobacco. On the other hand, studies carried out in such countries as Iran, the Soviet Union (Kazakhstan, Turkmenia) or China, where oesophageal cancer risk is several dozen times higher than in European countries, alcohol and tobacco have not been shown to be significant.

It is presumed that the high risk in these countries may be connected with local diet (exposure to N-nitrosocompounds), with low intake of iron, vitamins A and C, riboflavin, and a strong carcinogen like opium tar (Day and Munoz 1982; Lu et al. 1986).

Cancers of the oesophagus are rare in Poland. The data have to be considered carefully because of the possible confusion in the classification of this site with cancer of the stomach, and the conclusions drawn must be accepted warily. It is hard to comment on the reason for the declining oesophageal cancer mortality rate. There has been a steady increase in tobacco smoking since 1950 and an increase in alcohol consumption, which has accelerated since 1963. The lung cancer mortality rate in males has increased rapidly since 1963, and the rates for cancer of the larynx in males show an accelerating increase after 1970. These changes reflect closely the trends in consumption of alcohol and tobacco. Oesophageal cancer in both sexes, by contrast, shows an inversed trend. From 1963 to 1975 the rates decreased steadily in both sexes and in men they reached a plateau only in the years 1975-1982. After 1945 overall nutrition improved greatly. It is tempting to conclude that, as strong as the association of oesophageal cancer with tobacco and alcohol may be, nutritional factors have to play a role in the aetiology of the disease and they can, at times, override the other two. This hypothesis is justified by the observation of similar trends in the cancer of the oesophagus and the consumption of alcohol, tobacco smoking and changes in diet in other central and northern European countries (Austria, Czechoslovakia, Denmark, Finland, the Federal Republic of Germany) over the years 1950-1970. Of course this hypothesis will be stronger if misclassification can be excluded. These phenomena, observed in Poland and the countries mentioned above, need further investigation.