Trends in laryngeal cancer mortality in Europe

Cristina Bosetti1, Werner Garavello1,2, Fabio Levi3, Franca Lucchini3, Eva Negri1 and Carlo LaVecchia1,4

1Istituto di Ricerche Farmacologiche “Mario Negri,” Milan, Italy
2Clinica Otorinolaringoiatrica, DNTB, Universita` Milano-Bicocca, Monza, Italy
3Registre Vaudois des Tumeurs, Institut Universitaire de Médecine Sociale et Préventive, Lausanne, Switzerland
4Istituto di Statistica Medica e Biometria, Università degli Studi di Milano, Milan, Italy

After a steady increase since the 1950s, laryngeal cancer mortality had tended to level off since the early 1980s in men from most European countries. To update trends in laryngeal cancer mortality in Europe, age-standardized (world standard) mortality rates per 100,000 were derived from the WHO mortality database for 33 European countries over the period 1980–2001. Jointpoint analysis was used to identify significant changes in mortality rates. In the European Union (EU) as a whole, male mortality declined by 0.8% per year between 1980 and 1989, by 2.8% between 1989 and 1995, by 5.3% between 1995 and 1998, and by 1.5% thereafter (rates were 5.1/100,000 in 1980–1981 and 3.3/100,000 in 2000–2001). This mainly reflects a decrease in rates in men from western and southern European countries, which had exceedingly high rates in the past. Male laryngeal mortality rose up to the early 1990s, and leveled off thereafter in several countries from central and eastern European countries. In 2000–2001 there was still a 10–15-fold variation in male laryngeal mortality between the highest rates in Croatia (7.9/100,000) and Hungary (7.7/100,000) and the lowest ones in Sweden (0.5/100,000) and Finland (0.8/100,000). Laryngeal cancer mortality was comparatively low in women from most European countries, with stable rates around 0.3/100,000 in the EU as a whole over the last 2 decades. Laryngeal cancer trends should be interpreted in terms of patterns and changes in exposure to alcohol and tobacco. Despite recent declines, the persistence of a wide variability in male laryngeal cancer mortality indicates that there is still ample scope for prevention of laryngeal cancer in Europe.

Key words: laryngeal cancer; mortality; trends; Europe

Male laryngeal cancer is one of the cancers with the largest variations in mortality across European countries. In the 1950s, France and a few southern European countries (Italy and Spain) had the highest rates. In these countries, male mortality from laryngeal cancer had long been increasing, and reached a peak in the early to mid 1980s. Substantial increases in rates between the 1950s and the 1990s were also observed in men from central and eastern European countries, including Hungary, Poland and the Russian Federation. Mortality rates were traditionally lower in Scandinavian countries. Laryngeal cancer is the neoplasm with the largest male-to-female ratio, and hence, trends in women are unremarkable compared to those in men in most European countries, with the exception of Denmark, Ireland and the United Kingdom.

To further monitor recent trends in mortality from laryngeal cancer in Europe, we analyzed the data provided by the World Health Organization (WHO) over the last 2 decades, using also jointpoint regression analysis. These trends are discussed with reference to changes in the exposure to tobacco smoking and alcohol drinking, the main recognized risk factors for laryngeal cancer in developed countries.

Material and methods

Official death certification data from laryngeal cancer for 33 European countries for the period 1980–2001 were derived from the WHO database available on electronic support. Besides the United Kingdom as a whole, data were presented also for England and Wales, Scotland and Northern Ireland. Data for Estonia, Latvia, Lithuania, the Republic of Moldova and Ukraine were available only since 1981; for Croatia, the Czech Republic and Slov-