

TBE in Europe – Why are cases rising again in Europe in 2006?

Ideal conditions for ticks

Between 1974 and 2003, the number of registered cases increased by an average of 400 percent in all European countries with a TBE risk. This increase was observed in almost all countries, irrespective of the very different levels of risk.

Causes for this are mainly to be found in climate change and associated ecological consequences. But the causes can also be traced to social, economic and political changes. Increasing numbers of people are spending their leisure time out in the countryside. Outdoor activities such as walking, mountain biking and eco-holidays on the farm are enjoying a veritable upsurge in the field of tourism. This increases the risk of infection with the TBE virus for non-immunised individuals. The price explosion for fossil fuels is leading people to revert to local wood, again leading to greater exposure to ticks.

The reduced use of pesticides and damper climate produce “better” conditions for ticks. Increased temperatures accelerate the ticks’ development cycle; they also extend it, and the effect of this can be an increase in their population density. The extension of their area of distribution may also be due to climate changes.

Significant increase in disease cases across Europe

Between 2004 and 2006 there was again a significant increase in TBE incidence figures in several countries. Although it has been possible to observe fluctuations in the incidence of TBE several times over the last thirty years, the trend towards a general continual rise is, according to Prof. Dr. Jochen Süß of the Friedrich-Loeffler-Institute, Jena, Germany, conspicuous and significant. Switzerland registered an increase in cases of 58 percent from 2004 (131 cases) to 2005 (207 cases). The Czech Republic – where the level was already high – had a rise of 28 percent from 2004 to 2005 and a further astonishing rise of 58 percent (preliminary figures) from 2005 to 2006. These figures show the record year of 2005 with 642 cases being followed by another record year in 2006 with >1017 cases.

Even in Austria, which is exemplary in terms of its TBE vaccination coverage and has recorded an average annual figure of around 50 cases for years, the number of recorded cases in 2005 once again reached the magic figure of 100. Poland reports a provisional figure of 308 cases for 2006 – the second-highest number since the start of registration and an increase of 77 percent compared with 2005. Sweden has also developed a higher risk since 2000. The changes in Germany are serious, too. The record year of 2005 with 431 cases, representing an increase of 58 percent over 2004 (274 cases), is overshadowed by the number for 2006, with a preliminary figure of >535 cases (an increase of at least 24 percent as compared with 2005).

Spread of risk areas

In addition to the registration of ever-increasing numbers of disease, a further slow spreading of risk areas can be observed in many countries. Germany, Switzerland and Austria provide an example in this respect. In these countries, cases of TBE have been seen in regions where no cases had previously occurred.

Norway (which became a “TBE country” in 1997) gives an indication as to the northward spread of TBE areas, although the risk level is very low. In Finland, the virus is present just 200 km south of the Arctic Circle.

High risk TBE countries such as Russia, Estonia, Lithuania and Latvia, which reported rising, exceptionally high levels of incidence during the middle and end of the 1990s, did not show any further increases or published reductions in incidence, however. Dr. Süss says, “This example shows the need for a great deal more research work to be done into the climatic, ecological, political and social causes being blamed for the rise and hypotheses for these epidemiological developments in TBE.”

Low rate of vaccination coverage

“It is incredible”, says Dr. Süss, “in view of the epidemiological development of TBE in Germany, that after recent investigations in the German risk areas only between 11 and 20 percent of people living there have been fully immunized against TBE. In the non-risk areas the level is only 6 to 10 percent“. Even in Switzerland, the mean vaccination rate of 13 percent is very low, and is the same for both men and women. Even the highest regional rates in the country, 21 percent for Ostmittelland and 17

percent for the Alpen/Voralpen region, are far too low given the epidemiological situation described.

Austria, where the average rate shows 90% of the population to be systematically inoculated, therefore serves as an example to the whole of Europe: whereas between the years 1976 and 1980 the number of those developing TBE was still 426 per year, the average number of individuals in the equivalent period from 2001 to 2006 was only 70.