

### Sonderdruck

## Tick-borne Encephalitis – a European Health Challenge

### Conference report of the 8th meeting of the International Scientific Working Group on Tick-borne Encephalitis (ISW TBE)

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#### Frühsommer-Meningo-Enzephalitis: ein europäisches Gesundheitsproblem

**Zusammenfassung.** Die 8. Konferenz der International Scientific Working Group on Tick-borne Encephalitis (ISW TBE) behandelte das Thema „FSME – ein europäisches Gesundheitsproblem“. Die Inzidenz der FSME-Erkrankungen ist in nahezu allen betroffenen europäischen Ländern in den letzten Jahren gestiegen (mit Ausnahme Österreichs). Zusätzlich wird die FSME zu einer internationalen Herausforderung für die öffentliche Gesundheit, da die Mobilität der Menschen stark zugenommen hat und entsprechende Risikogebiete häufige Reiseziele sind. Die FSME-Impfung sollte allen Reisenden empfohlen werden, die endemische Regionen bzw. die Natur aufsuchen, egal wie lange der Aufenthalt dauert. Da derzeit keinerlei Reiseempfehlungen existieren, ist es eine der wichtigsten, zukünftigen Aufgaben der ISW TBE, das Problembewusstsein außerhalb endemischer Gebiete zu erhöhen und allgemeine Empfehlungen zu formulieren, die zumindest für Europa gültig sind.

**Schlüsselwörter:** Frühsommer-Meningo-Enzephalitis, Reisende, Impfung.

**Summary.** The annual 2006 meeting of the International Scientific Working Group on Tick-borne Encephalitis (ISW TBE) raised the topic “Tick-borne Encephalitis – a European Health Challenge”. TBE incidence has more or less increased in all European countries with a TBE risk in the last years (excepting Austria). Additionally, TBE has become an international public health problem because of

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increasing mobility of people travelling to risk areas. TBE vaccination should be recommended when people travel to endemic regions and come into contact with nature, regardless of the duration of the stay. As no clear recommendations for travellers exist, it will be one of the major future challenges of the ISW TBE to increase problem awareness outside endemic regions and create general recommendations, which are valid for at least all European countries.

**Key words:** Tick-borne encephalitis, traveler, vaccination.

#### Introduction

Vector-borne diseases are the cause of some of the most important public health problems in Europe with tick-borne encephalitis virus as the most important and widespread tick-borne arbovirus [1]. About 10.000–13.000 cases of Tick borne Encephalitis (TBE) are reported worldwide every year [2], the estimated number of unreported cases is much higher. The clinical course of the disease can be severe, severity increases with age, the disease might cause a considerable long-term morbidity and about 1 % of the patients in Europe die [3].

Up to now two conference reports of the International Scientific Working Group on Tick borne Encephalitis (ISW TBE) have been published on the issues TBE in childhood and the golden agers over 50 years of age [4, 5].

The annual 2006 meeting of the ISW TBE had as its topic “*Tick-borne Encephalitis – a European Health Challenge*”. Experts from 14 European countries discussed the major public health problem of increasing TBE cases in many parts of Europe. Presentations of the actual descriptive epidemiology and the essential consequences were discussed.

**Epidemiological situation 2005**

In several European countries tick-borne encephalitis is one of the most important human infections of the central nervous system. Except for Austria the TBE incidence has more or less increased in the last years in all European countries with a TBE risk [6].

Overall, the situation in Europe is inconsistent. Some countries show – after a sharp increase in the mid 90s – a stable or slightly decreasing development, such as Estonia, Latvia or Slovenia. Other countries have observed extremely high numbers of cases or even the highest number of infections so far, e. g. Germany, Switzerland or the Czech Republic (Fig. 1). Between 2004 and 2005 there has been an increase in TBE incidence in Germany of about 56 %, in Switzerland 49 % and in the Czech Republic 24 %. Some countries, like Sweden and Italy, which have not had a considerable TBE problem so far (or did not search for one), are now confronted with the alarming situation of increasing TBE cases.

The only exception to this trend is Austria, where national campaigns leading to consistent immunization have reduced the number of annual infections from 600 to about 60 [7].

Main reasons for this trend are – besides possible changes in tick biology or the geographical distribution of vectors and host or influence of global warming [8] –

higher exposition rates through increased mobility, more leisure time spent outdoors, increased travelling activities, a move away from more protective clothing and, of course, low vaccination rates.

**Risk for travellers**

Additionally, TBE has become an international public health problem because of higher numbers of people travelling to risk areas. About 60 million travellers go to endemic countries every year [9]. Today the risk of infection is especially high for all people who pursue outdoor leisure activities in endemic areas.

Moreover, changes in travel habits are contributing towards the increasing risk regarding TBE:

1) Choice of travel destination is becoming more activity-driven rather than purely destination-driven, 2) there is now a higher demand for authenticity and closer contact to a local culture, 3) travellers no longer go to the same destination year after year, 4) people have grown accustomed to an “unsafier” world, 5) people are undertaking shorter but more frequent trips and 6) new travel destinations are increasingly to be found in the countries of Central Eastern Europe [10].

Table 1 summarizes the risk for travellers to TBE risk areas.

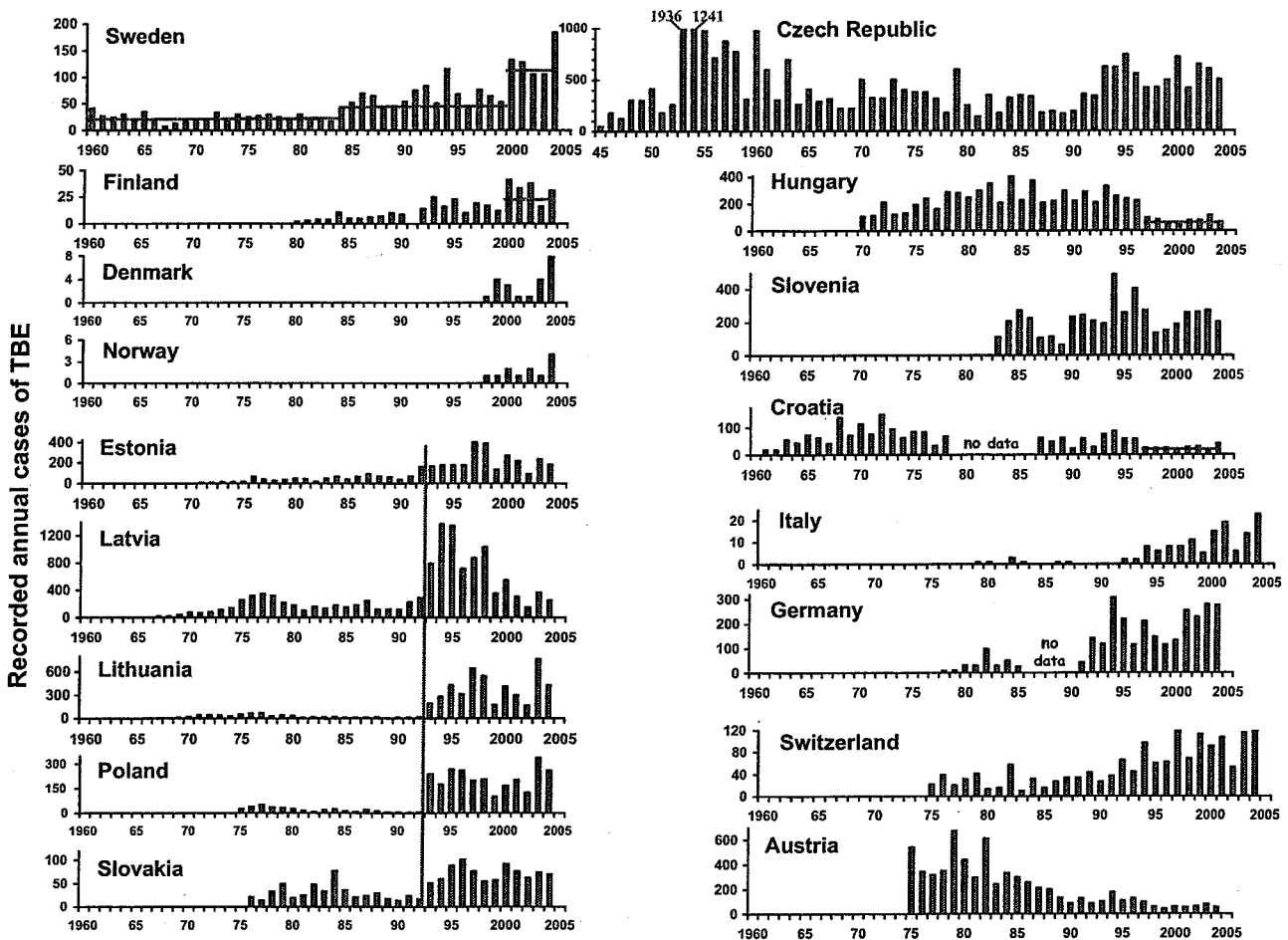


Fig. 1. Annual cases of TBE in Europe

**Table 1.** TBE risk for travellers

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- + Main destination for Europeans is Europe
  - + Increasing travel to TBE endemic regions
  - + Main travel season corresponds with main tick-activity period
  - + TBE travel – vaccination for non-immune travellers is not always available
  - + No specific treatment of the disease available
  - + Postexposure TBE – immunoglobuline is no longer available
- 

Tourists often visit endemic areas without being aware of the danger. An Austrian study calculated the possible TBE cases that are “exported” every year and came to the conclusion that there must be about 60 travel-associated TBE cases [10]. The risk of acquiring TBE in Austria is comparable to the risk of acquiring typhoid fever for an unvaccinated tourist in a highly endemic area [11]. Travel vaccination against typhoid fever is one of the standard recommendations for endemic regions, but this is absolutely not the case for TBE travel vaccination.

**Table 2.** Identified key problems and proposals of the ISW TBE

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- + Low vaccination rates (ex. Austria)
  - + Increasing number of cases in many European countries
  - + Lack of information regarding
    - distribution of the disease
    - assessment of tick bite risk
    - monitoring ticks/ standardisation of laboratory methods
    - under diagnosis of TBE cases in some countries
  - + Disinformation by medical community and public press
  - + Change of life style
    - increasing leisure time
    - increasing outdoor activities
    - increased travel in Central & Eastern Europe
  - + Lack of awareness of local health authorities
    - officially recommended vaccination
  - + Recommendations to improve the situation
    - common recommendations for the whole of Europe
    - focus on travellers
  - + Definition of a proposal paper for the official health authorities
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### Need for travel recommendations

Evaluation of the current recommendations for travellers shows a complex and disconcerting situation. Even the World Health Organization and the Centers for Disease Control and Prevention express their recommendations in an unspecific and imprecise manner [12, 13]. The decision pro or contra a TBE travel vaccination should be mainly influenced by the planned activities of

the travellers (contact with nature), and not only by the destination concerned.

Systematic TBE monitoring allows an accurate risk calculation of mobility-associated-TBE. What we now have is the difficult situation of an increasing risk of infection and an increasing number of TBE-cases in Europe on the one hand, and a lack of valid, official recommendations and information for travellers. The situation is obvious: *Everybody who travels to an endemic region and moves about in the open, should be vaccinated, regardless of the duration of the stay.*

Presently no clear recommendations for travellers exist. It will be one of the major future challenges of the ISW TBE to increase problem awareness outside endemic regions and also draw up general recommendations, which are valid for all at least all European countries.

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