



11th ISW-TBE Newsletter

December 2009

Dear colleague,

We are very proud to present to you the 11th edition of our international TBE Newsletter, which you will hopefully enjoy reading. The newsletter covers an update on the latest activities of the International Scientific Working Group on Tick-Borne Encephalitis (ISW-TBE).

This edition brings to you reports on:

- 1) Serological response to TBE vaccination in the elderly**
- 2) Tick-borne encephalitis: a case with fatal outcome**
- 3) More than 10 years of intensified research and counseling on TBE**
- 4) The ISW-TBE websites**
- 5) Vaccination rates**

Please feel free to come back to us in case of comments, further suggestions and ideas regarding our newsletter; we will try to incorporate these in one of our next editions.

Best regards,

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1 Serological response to TBE vaccination in the elderly

Age is a factor influencing the immune response and the responsiveness to vaccines. Particularly from the age of 60, there is a significant reduction in antibody and cellular immune responses. These observations are also highly relevant for tick-borne encephalitis (TBE). Therefore, the product information on TBE vaccines recommends determining the antibody response after 2 of the 3 doses required for primary immunization in persons over 60.

Data on the immune response to TBE vaccination in elderly persons are scarce. In an analysis by Jilkova and colleagues, 18% of vaccinated persons who had received 2 of the 3 vaccinations required for primary immunization had antibody concentrations below levels considered protective, confirming the importance of testing the antibody response after the second vaccination in elderly individuals and administering an additional dose in the event of an insufficient response (Figure 1).¹



Figure 1: Publication by Jilkova E et al. Serological response to tick-borne encephalitis (TBE) vaccination in the elderly – results from an observational study. Expert Opinion on Biology Therapy (2009) 9(7):797-803

2 Tick-Borne encephalitis: a case with fatal outcome

In Europe, cases of TBE with fatal outcome are infrequent. Of about 3000 hospitalizations every year, the mortality reported in Europe is below 1%, with some papers reporting mortality rates up to 3.3%.

The first lethal case of tick-borne encephalitis (TBE) registered in Italy occurred in 2006 in Friuli Venezia Giulia, an Italian region at the border between Austria and Slovenia. The case reported by Ruscio and colleagues² involved a 72-year-old woman who had never undergone

¹ Jilkova E et al. Serological response to tick-borne encephalitis (TBE) vaccination in the elderly – results from an observational study. Expert Opinion on Biology Therapy (2009) 9(7):797-803

² Ruscio M. Tick-borne encephalitis: a case with fatal outcome; WMW (2009) 159/11-12: 296-300

preventive vaccination against TBE. She lived in an area where TBE was first reported in 2003. The women presented with a clinical picture suggestive of TBE, and the infection was subsequently confirmed serologically and by cerebrospinal fluid (CSF) testing.

Blood chemistry showed some alterations characteristic of TBE, such as thrombocytopenia and transaminase increases, as well as anemia, which has been observed in other cases of TBE with fatal outcome. During the first 25 hours of hospitalization, the disease rapidly worsened, leading to tetraparesis, coma, and severe respiratory insufficiency. The patient died of respiratory complications on day 32. X-rays performed during hospitalization and autopsy showed no TBE-related lesion of brain, cervical spine, and spinal cord. The patient's laboratory parameters as monitored during hospitalization are summarized in Table 1.

Day	Fever (° C)	WBC (4.5–10.0 × 10 ⁹ /L)	Hb (12–16 g/dL)	PLT (130–400,000/mm ³)	CRP (0–5 mg/L)	ALT (5–45U/L)
1	39.6	13.1	12.8	108	6	180
6	36.7	9.5	9.2	106	29.7	135
12	37.0	10.1	8.3	220	57.2	14
16	38.0	13.6	7.4	230	159.2	14
23	38.1	8.3	9.1	242	24.3	12
26	38.3	8.1	8.2	173	70.4	16
31	37.2	19.1	8.6	214	360.1	18

Table 1: Development of fever and laboratory parameters during hospitalization; Ruscio M. Tick-borne encephalitis: a case with fatal outcome; *WMW* (2009) 159/11-12: 296-300

Overall, this case once more emphasizes the potential severity of TBE virus infection and confirms the need to raise awareness of the importance of vaccination prophylaxis for people living in or traveling to risk areas.

3 More than 10 years of intensified research and counseling

For more than 10 years, the ISW-TBE has been committed to fighting the potentially debilitating and life-threatening disease TBE by promoting national and international exchange on its prevention, supporting research into the disease characteristics, implementing international surveillance standards, and developing harmonized vaccination recommendations. The number one message of the ISW-TBE has been that TBE is a vaccine-preventable disease.

In January 2010, the ISW-TBE will hold its 12th annual meeting in Vienna in January 2010. For two days, experts from European countries and other parts of the world, such as China, Japan, and Canada, will convene to review the latest developments in the field of TBE and discuss how to continue to address the ongoing threat of the TBE virus.

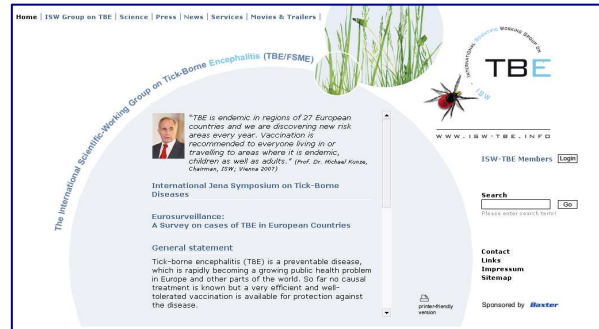


4 ISW-TBE Websites

Many of today's networking activities take place on "virtual" platforms. Communities, no matter whether medical professionals or the lay public, want to get the information they need when they need it and wherever they are. This is why, 3 years ago, the ISW-TBE launched 3 websites with different contents.

4.1 www.ISW-TBE.info

The www.isw-tbe.info website is an internet platform for experts who have positioned themselves as TBE reference center. Furthermore, it supports efforts geared towards defining international travel recommendations on the part of WHO and ECDC and developing reimbursement guidelines.



4.2 www.TBE-prevention.info

The website www.tbe-prevention.info went live in 16 European languages. Its main focus is to provide information about TBE and how to prevent it. The website also features a list of vaccination centers across Europe and a list of frequently asked questions (FAQs), covering topics such as endemic areas, the clinical course of TBE, and TBE prevention.



4.3 www.tick-victims.info

The website www.tick-victims.info was founded in a combined effort by the members of the ISW-TBE, building on the success of the Austrian TBE patient advocacy group. The international patient information platform for "tick victims" was set up as a non-profit association that relies on charitable contributions and promotes local and transregional TBE projects to the benefit of individuals afflicted by TBE and people close to them. Another purpose of this site is to propagate TBE prevention across Europe. It provides practical information on the disease and possible ways of treatment. It is also available in 16 European languages.



Since these ISW-TBE websites were first launched, enormous interest has been recorded. Overall, interest has increased steadily between 2006 and 2009 (Figure 2).

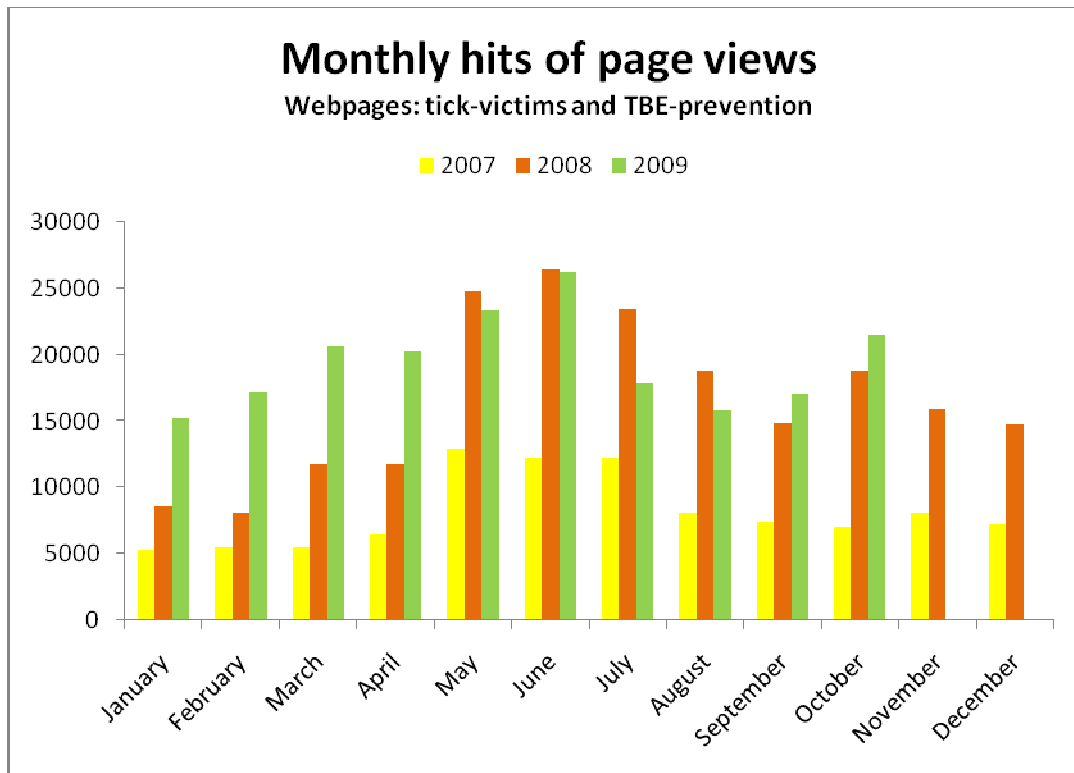


Figure 2: Monthly hits of page views, Source: Google Statistics, 2009.

4.4 Vaccination reminder to improve vaccination compliance

A few months ago, the ISW-TBE implemented a vaccination reminder on www.tbe-prevention.info. The purpose of the project is to allow visitors to sign up for being reminded by email when their next vaccination is due. The need for this service became evident in a market research showing that a sizeable proportion of the population keeps forgetting when they are supposed to get their next booster shot. Mobile devices are becoming important communication instruments that can also be used to remind patients to get their scheduled vaccinations.

The TBE prevention website is an ideal platform for implementing the vaccination reminder to help vaccinees comply with their personal vaccination schedule. This free service automatically sends a reminder via email to prompt vaccinees to book their next immunization appointment.



5 Vaccination Rates

TBE is endemic in 27 European countries as well as in parts of Asia, and every year new risk areas are detected. The number of TBE cases increases almost annually. But awareness of TBE is still too low, it is too rarely diagnosed and too seldomly prevented. There is no causal treatment available for TBE—the only efficient prophylaxis is vaccination.

Austria has the highest TBE vaccination rate (86% in 2009) in Europe. By comparison, the vaccination rates in neighboring countries, such as the Czech Republic or Slovenia, are on a very low level given the fact that the endemicity of TBE is similar to that in Austria.³

The ISW-TBE, together with physicians, journalists, and proactive advocacy patient groups, is ceaselessly working to enhance awareness on TBE and TBE vaccination.

TBE Vaccination Rate Survey 2009

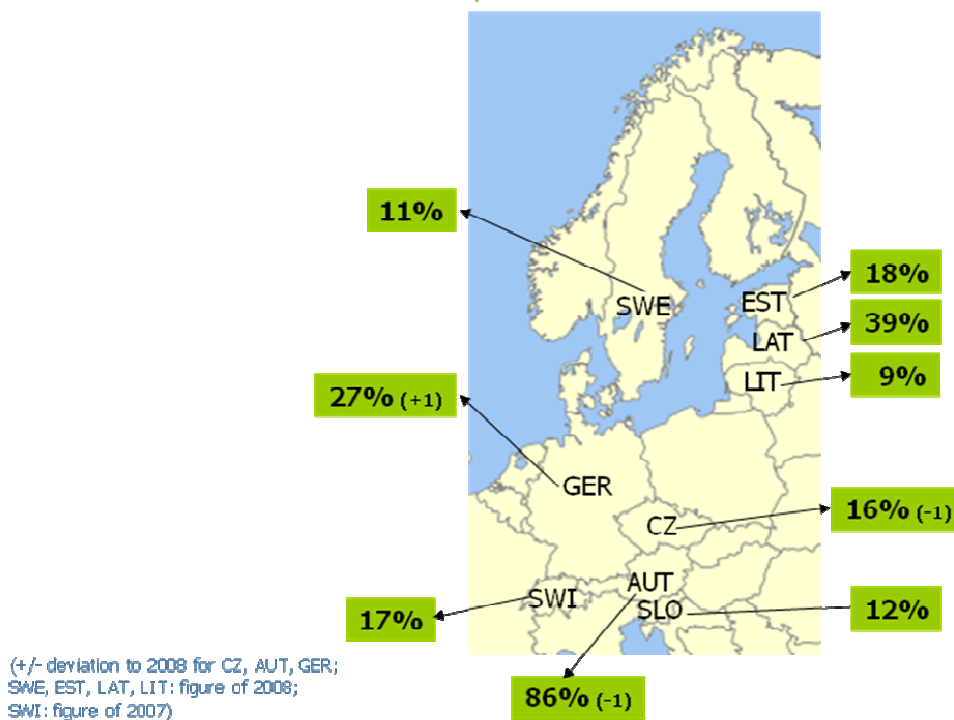


Figure 3: TBE Vaccination Rate Survey, Source: GfK surveys 2007, 2008, 2009³.

Whereas awareness of TBE is increasing in Europe, many people do not feel at risk and therefore do not get vaccinated.³ To be protected against TBE, it is necessary to receive a full primary vaccination schedule consisting of 3 doses as well as subsequent booster vaccinations at the recommended intervals.

This email is intended merely to highlight issues and not to be comprehensive, nor to provide medical advice. Should you have any questions on issues reported here please contact Prof. Ursula Kunze (ursula.kunze@meduniwien.ac.at). We hold your email address, which we use to send you this electronic news update on TBE and on the activities of the ISW -TBE group. We use your details for our own internal purposes only. If any of your details are incorrect or if you no longer wish to receive emails from us, please let us know by emailing us at ursula.kunze@meduniwien.ac.at.