

VACCINATION – PROGRAMME OF TBE VACCINATION BY AN ACCIDENT INSURANCE COMPANY

1. Organisations involved

Allgemeine Unfallversicherungsanstalt in Österreich (AUVA) (General accident insurance company in Austria)

2. Description of the case

2.1. Introduction

Tick-borne encephalitis (TBE) is a very severe infection of the brain that is transmitted by ticks. TBE occurs in the warm forested parts of central and Eastern Europe and is the most important arthropod-transmitted viral disease in Europe (WHO, 2007). Austria is one of the European countries most at risk. The TBE virus is found in nearly all Austrian provinces. The main endemic areas are rural regions of Styria, Carinthia, Lower Austria and Upper Austria, as well as Salzburg, the Burgenland, and the suburban area of Vienna (Land Steiermark, 2008; Arge Gesundheitsvorsorge, 2005a).

In the pre-vaccination era Austria had the highest incidence of TBE in Europe: more than 700 cases were recorded annually (Kunz, 2001). The vaccine became available in 1976. The farmers' accident insurance company was particularly interested in this vaccine, because farmers and forest workers were a high risk group.

Figure 1. TBE is one of the many diseases caused by ticks

Picture available free, from H. Hautumm, pixelio.de



The vaccine was so successful that TBE virtually disappeared in these professional groups. Since then the AUVA has run such vaccination campaigns continuously.

TBE is a brain inflammation caused by a virus, usually transmitted by ticks that are infected with the virus. TBE is a severe infection and is fatal in 1 % to 5 % of cases (European type of TBE) (WHO, 2007). Between 35 % and 58 % of all patients develop long-lasting or permanent neuropsychiatric late damage (Stodulka, 2006). There is no specific drug therapy for TBE, but it can be successfully prevented by vaccination (Unterweger, 2007), which has a protection rate of almost 100 % (AUVA, 2009). Since 1980 Austria has had a universal annual national vaccination campaign (WHO, 2007). The current vaccination rate in Austria is 88 %, which is very high compared to other European countries (10 %). Since 1980 about 35 million people have been immunised and the number of infections has decreased from 700 cases to 84 cases in 2006 (Arge Gesundheitsvorsorge, 2005b).

2.2. Aims

The aim of the vaccination campaign was to minimise and eventually eliminate the risk of tick-borne encephalitis.

2.3. What was done, and how?

The legal driver for the campaign is the General Social Insurance Act (ASVG), which requires preventative measures to be taken to protect workers. The vaccination campaign is run by the AUVA, which finances the vaccine (serum). The campaign costs between EUR 150 000 and EUR 200 000 which corresponds to 13 000 and 16 000 ampoules of serum.

Companies inform the AUVA about their workers at risk. The AUVA then commissions a pharmacy to provide the company with an appropriate amount of vaccine. AUVA also monitors the time intervals for the booster immunisation in order to maintain long-term protection. The companies concerned are responsible for providing their workers with the vaccine. The workers have to consult a physician to be vaccinated.

Figure 2. Forest workers are at high risk of infection by TBE



Until 1995 all workers took part in the vaccination programme but since then only workers from high-risk groups in terms of the list for approved occupational diseases have been included.

2.4. What was achieved?

The Austrian vaccination experience over more than 30 years has succeeded in reducing the number of TBE cases from more than 700 a year to less than 100 today. The mass vaccination rate is about 88 % of the population (Stodulka, 2006). It is obvious that the decrease in morbidity rate has gone hand in hand with an increase in vaccination rate. Although climate changes enhance the risk of TBE, the infection rate has not increased in Austria. Compared to other European countries the infection rate in Austria is very low (see Table 1). No occupational infections with TBE were reported in 2002, 2004 and 2005. In 2001, 2003 and 2006 only one case of TBE infection per year was recognised.

Table 1. Increased number of TBE cases between 1993 and 2006 (Kunze, 2007)

Increase in number of TBE cases between 1993 and 2006							
Country	Mean number of cases between 1993 and 2002	2003	2004	2005	2006	Increase between 2005 and 2006 (%)	Increase between 1993– 2002 and 2006 (%)
Austria	89	82	54	100	84	-16	-8
Czech Republic	566	606	500	652	10017	58	80
Germany	105	270	274	431	535	24	109
Poland	197	393	262	174	308	77	56
Switzerland	82	116	131	207	258	24	212



Problems faced

Companies sometimes do not have the resources to organise the vaccine distribution and monitor the intervals of primary immunisations and booster immunisation. The AUVA does, however, provide help for companies in order to assure correct vaccination and long-term immunity.

At present there is a shortage of TBE serum in Europe; this is also affecting the AUVA.

2.5. Success factors

Keeping the population informed through factsheets, websites and news releases has proved to be an important factor in the success of the initiative.

2.6. Further information

Contact information:

AUVA

Adalbert-Stifter-Str. 65

1200 Wien, AUSTRIA

Tel. +43 1331110

Fax +43 133111855

E-mail: HAL@auva.at

Internet: <http://www.auva.at/schutzimpfung>

2.7. Transferability

The long-term experiences with the vaccination programme in Austria and the very good results could serve as an example for other European countries.

3. References, resources:

Arge Gesundheitsvorsorge, 2005a, 'Verbreitungsgebiete'. Available online at: <http://www.zecken.at/zecken.aspx>

Arge Gesundheitsvorsorge, 2005b, 'FSME-Impfstoff – eine österreichische Erfolgsgeschichte'. Available online at: <http://www.zecken.at/Zecken.aspx?target=49681>

AUVA, 'FSME Zecken-Schutz', 2009. Available online at: http://www.auva.at/portal/index.html?ctrl:cmd=render&ctrl>window=auvportal.channel_content.cmsWindow&p_menuid=59050&p_tabid

Kunz, C., 'Vaccination against TBE in Austria: The Success Story Continues', in VIth International Potsdam Symposium on Tickborne Diseases (IPS-VI), Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin. 26 April 2001. Available online at: http://www.bfr.bund.de/cm/235/zecken_abstracts.pdf

Kunz, C., 'TBE vaccination and the Austrian experience', *Vaccine Suppl.*, 2003, Vol 21, no. 1. Available online at: <http://cat.inist.fr/?aModele=afficheN&cpsid=14620665>

Kunze, U., 'Tick-Borne Encephalitis: Underdiagnosed, Underreported and Underprevented', Press Conference Report: 9th Annual Meeting of the International Scientific Working Group on Tick-Borne Encephalitis (ISW-TBE) 25-26 January 2007, in 3rd ISWTBE Newsletter February 2007. Available online at: http://www.tbe-info.com/upload/medialibrary/ISW-TBE_Newsletter_February_2007.pdf

Land Steiermark, Zecken-Impfung, 2008. Available online at: <http://www.gesundheit.steiermark.at/cms/beitrag/10035707/842337/>

CASE STUDIES

Sozialversicherungsanstalt der Bauern SVB, 2007, Zeckenschutzimpfung, website SVB.
Available online at:
http://www.svb.at/esvapps/page/page.jsp?p_pageid=127&p_menuid=66047&p_id=3

Stodulka, T., 'Heimisches Zecken-Know-how fur Europa', *Medical Tribune*, 05/2006. Available
online at: 05/2006 http://tbe-info.com/upload/medialibrary/Medical_Tribune_German_06.05.pdf

Unterweger, S., 'ISW schlägt Alarm: deutliche Zunahme der FSME-Erkrankungen', ISW-TBE
Presse Portal, 2007. Available online at: <http://www.presseportal.de/story.htx?nr=931876>

WHO, 2007, 'Tick-borne Encephalitis Vaccine', website of the WHO, programmes and projects
– biologicals'. Available online at:
http://www.who.int/biologicals/areas/vaccines/tick_encephalitis/en/