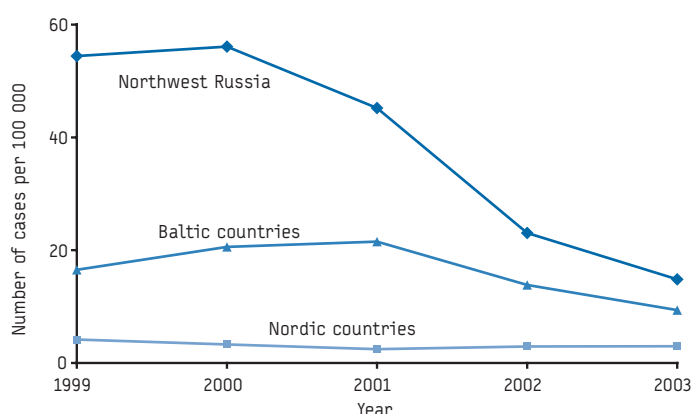


northwest Russia and the Baltic countries [FIGURE 1].

Since the late 1990s, Finland, Norway and Sweden have experienced large nationwide outbreaks in IDUs and the disease seems to be endemic again in this high-risk group. The number of newly diagnosed cases has dropped considerably in the eastern part of the region [FIGURE 2]. A combination of effective preventive measures and a decrease in numbers of susceptible IDUs may have contributed to this improvement. The spread of hepatitis B in drug users has resulted in a growing number of sexually transmitted cases among IDUs' sex partners, most of whom are women. As a consequence, preventing hepatitis B in newborn babies has become a concern in most of the countries in the region.

FIGURE 2

Number of cases of acute hepatitis B notified per 100 000 population 1999–2003 by groups of countries or regions [1]. Iceland, Komi, Pskov, Novgorod and Vologda regions not included



Transmission of hepatitis B by routes other than needle sharing or sex is rare in the Nordic countries, and healthcare-associated hepatitis B infections mostly occur in the eastern part of the region. Likewise, healthcare workers in the eastern part of the region are at greater risk of contracting hepatitis B than in the Nordic countries.

Due to the increasing number of acute cases in IDUs and their sex partners, more and more cases of the chronic, carrier state are being diagnosed in this group all over the region. Seroprevalence studies among IDUs performed 2000–2002 in the region have shown the following prevalence of any hepatitis B markers of previous or current infection: Estonia 65%, Latvia 38%, Lithuania 7%, Norway 53% and St. Petersburg 16% [2,3,4].

In the Nordic countries, immigrants from highly endemic countries constitute the overwhelming majority of notified cases of hepatitis B carriers. Most of these patients acquired their infection at birth or in early childhood in their former country of residence. The number of notified chronic hepatitis B carriers therefore usually reflects the number of immigrants entering the countries each year.

Prevention

A reduction in the transmission of hepatitis B among IDUs would have the most impact on numbers of hepatitis B infections throughout the region. This would also lead to a reduction of sexual and mother-to-child transmission. Prevention among high-risk groups such as IDUs relies on information campaigns, general measures to reduce drug abuse, and introducing harm reduction by ensuring clean needles and syringes are supplied to IDUs. Clean needles and syringes are available at pharmacies throughout the region, although in Sweden, needles can only be obtained with a doctor's prescription. Local health authorities throughout the region, with the exception of Iceland and Sweden, have introduced free needle programmes, needle exchange programmes or both. In Finland, regional health authorities are obliged by law to set up needle exchange programmes. More than 2 million clean needles and syringes are distributed free of charge in Oslo each year. Easy access to clean needles and injection equipment can still be a problem in some areas in northwest Russia, and some of these harm reduction programmes are often disliked or opposed by the local police.

Hepatitis B vaccine is part of the national immunisation programmes for newborn babies in Russia and in the Baltic countries, and there are also special programmes aimed at vaccinating teenagers. This is seen as an important measure for quickly reducing the incidence in drug users. In the eastern part of the region, implementation of hepatitis B vaccination of newborns and teenagers has been slow due to lack of funding. Improved funding and bilateral projects between the Nordic countries and regions in northwest Russia as well as funding from the Vishnevskaya-Rostropovich Foundation has now resulted in high vaccination coverage in newborns and some teenage cohorts. Close contacts of people with acute disease or carrier status are also offered hepatitis B vaccination in Russia.

None of the Nordic countries have so far included hepatitis B vaccine in their national vaccination programmes. Instead, they have adopted a strategy of selective vaccination of high-risk groups such as drug users, men who have sex with men, close contacts of known carriers, haemophiliacs and people with underlying liver disease. The costs of the selective programmes are covered differently in the various Nordic countries, but in all countries vaccine is given free of charge to most of the targeted groups.

In contrast to the rest of the region, few vaccination campaigns have so far been directed towards the injecting drug user communities in northwest Russia. One exception is the region of Kaliningrad where a special vaccination project aimed at youth at risk of drug use has been started. Healthcare workers are extensively vaccinated against hepatitis B in most parts of the region.

Estonia, Iceland, Latvia and northwest Russia have introduced a universal screening policy for pregnant women. Due to lack of funds, however, not all pregnant women are screened for hepatitis B in northwest Russia. In the other Nordic countries, screening of pregnant women is selective.

This article was adapted from reference 1, Published in the latest issue of EpiNorth, the English/Russian language journal on communicable disease control and communication in Northern Europe and northwest Russia.

References

1. EpiNorth. Hepatitis B. In: Status on some important infectious diseases in Northwest Russia and the Nordic and Baltic countries 1999–2003. EpiNorth 2005; 4(1). (<http://www.epinorth.org/artikler/?id=44988>)
2. Abdala N, Carney JM, Durante AJ et al. Estimating the prevalence of syringe-borne and sexually transmitted diseases among injection drug users in St. Petersburg, Russia. Int J STD AIDS 2003; 14: 697–703.
3. EMCDDA. Annual report 2004: the state of the drugs problem in the European Union and Norway. Lisbon: The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); 2004. (<http://annualreport.emcdda.eu.int/en/home-en.html>)
4. Steen T, Elstrom P, Holde K. Vaksinasjonskampanje og undersøkelse blant sprøytemisbrukere i Oslo 2003 [Vaccination campaign and prevalence study in injecting drug users, Oslo 2003]. MSIS-rapport 2004; 32(2) (<http://www.fhi.no/dav/B1550CCB6E.pdf>) [in Norwegian]

FIVE CASE HISTORIES OF TULARAEMIA INFECTION IN OPPLAND AND HEDMARK COUNTIES, NORWAY

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From the middle of June 2003 to 10 October 2003, six cases of tularaemia were confirmed in the Norwegian central and eastern counties of Oppland and Hedmark [1]. Four of these cases were IgG and IgM positive for antibodies against *Francisella tularensis*. In one case, the titre was over 8000. The fifth case was both culture and PCR positive for *F. tularensis*. The patients were all males - aged 15, 17, 34, 36, 59 and 74 years respectively.

Serum specimens were tested at St. Olavs Hospital in Trondheim by microagglutination technique as well as ELISA for IgG and IgM antibodies.

Pus specimens and other types of specimens were tested by cultivation and polymerase chain reaction (PCR). Clinical and epidemiological information was obtained from the physician treating the patients.

The clinical presentation of five of the cases is described below:

Patient one was admitted to hospital with multiple ulcers in the foot and ankle region. Later, an enlarged lymph gland in the groin area was noted. The patient had a fever, felt unwell, and his condition deteriorated. The tentative diagnosis was vasculitis. The local physician eventually diagnosed tularaemia after reading about it in the national communicable disease bulletin (MSIS-rapport, <http://www.fhi.no/eway/default0.asp>).

Patient two was bitten by a wild rat, which he had found in an unwell state and was taking care of. The rat later died – most likely from an infectious disease. Two days after being bitten, the patient developed a fever and felt unwell. Ulcerations and enlargement of the lymph nodes were noted on clinical examination.

Patient three was probably bitten outdoors, by an insect, tick or snake, but could not recall this. The patient presented with a fever, and an enlarged lymph node (no abscess) and also with an ulceration that was small and considered atypical.

Patient four presented with typical ulceration around the ankle, a fever, and an enlarged lymph node with formation of an abscess. The abscess had to be drained, despite adequately targeted antibiotic treatment.

Patient five presented with typical ulceration in the underarm area, a fever, and enlarged lymph nodes with an abscess which was drained.

The patients all had the following symptoms and signs in common:

- The ulcerations were 2-3 cm in diameter with a central crater.
- The ulcerations lasted for weeks and did not heal quickly even when antibiotics such as ciprofloxacin were given
- The regional lymph nodes were larger than expected.
- The patients felt very unwell approximately 10 days after the onset of fever.
- The general malaise generally lasted many weeks, and persisted even after starting adequate treatment with antibiotics.
- Blood test results for evidence of infection were close to the normal reference values.

All five cases described lived in areas where rodent activity is high and where tularaemia has been diagnosed previously. There were no known associations between the patients. None of the patients reported drinking water from unchlorinated sources. Physician awareness of tularaemia in Norway is fairly low, and some of the

cases described were not recognised at initial presentation.

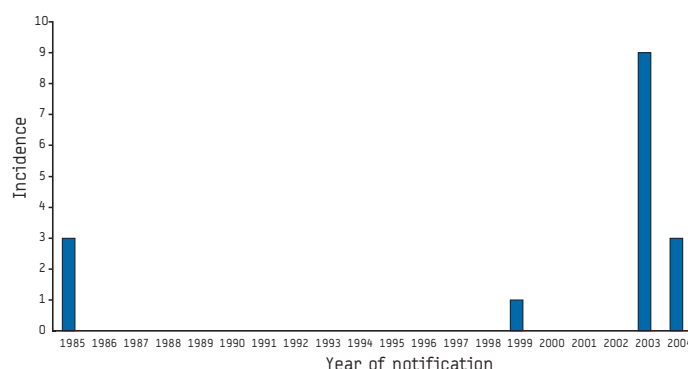
Tularaemia epidemiology in Norway 1985-2004

Tularaemia has been a notifiable disease in Norway since 1975. Between 1975 – 2004, the annual incidence has varied from 0 to 47 cases (incidence in 1985). In Sweden, the incidence has been much higher in recent years – up to many hundred cases annually [2].

From 1985 to 2004, there were 16 cases in Oppland and Hedmark counties [FIGURE]. There were 13 males and 3 females affected. No imported cases were documented. Most cases were among adults. All cases occurred between July and December.

FIGURE

Tularaemia in Oppland and Hedmark counties, Norway, 1985 - 2004, distribution by year



Given that rodents move freely across national borders, it is not clear why the incidence in Norway remains low whereas in neighbouring areas in Sweden, incidences are much higher. It is likely that tularaemia is underdiagnosed in Norway. The degree of underdiagnosis/underreporting remains unknown. Increased awareness of tularaemia among physicians and the general public would improve knowledge of the epidemiological situation.

References

1. Hagen IJ, Hasseltvedt V, Aandahl E, Bevanger L. Tulaemi i Oppland og Hedmark 2003 – mikrobiologi og epidemiologi (in Norwegian) (Tularaemia in Oppland and Hedmark 2003 – Microbiology and Epidemiology. Proceedings from The Annual Conference, Folkehelseinstituttet, Oslo, 2003 – abstract 13.
2. Arneborn M. Tulaemi. Epi-aktuelt 2004:39 (<http://www.smittskyddsinstitutet.se/SMItemplates/BigArticle/4290.aspx>)