Anthrax

Reporting on 2014 data retrieved from TESSy* in November 2015
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Key facts

- Anthrax continues to be a rare disease in Europe, with only a few cases reported every year.
- In 2014, a total of 16 cases of anthrax was reported by four EU/EEA countries. One case was reported as a confirmed case. The remaining 26 reporting countries notified zero cases.

Methods

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In 2014, 30 EU/EEA Member States reported anthrax data through surveillance systems with national coverage. Ten of the 30 Member States used the EU case definition from 2012, and 13 used the one from 2008. Four Member States reported using another case definition while three did not specify which case definition they used. The majority of the Member States (26 of 29) undertook passive surveillance. In 20 countries, cases were reported by both laboratory and physicians and/or hospitals. All Member States reported case-based data.

Epidemiology

In 2014, 16 sporadic cases of anthrax were reported: nine from Hungary, four from Spain, two from Romania, and one from Greece. Of these, one case from Spain was laboratory-confirmed.

In 2010, 32 confirmed cases were reported, mainly from the United Kingdom.

In the period 2011–2014, the occurrence of cases was restricted to a few sporadic cases every year (Table 1).

Table 1. Distribution of confirmed reported anthrax cases, EU/EEA, 2010–2014

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Country	2010	2011	2012	2013	2014			
	Confirmed cases	Confirmed cases	Confirmed cases	Confirmed cases	National data	Report type	Reported cases	Confirmed cases
Austria	0	0	0	0	Y	C	0	0
Belgium	0	0	0	0	Y	C	0	0
Bulgaria	3	1	1	1	Y	C	0	0
Croatia	.	.	.	1	Y	C	0	0
Cyprus	0	0	0	0	Y	C	0	0
Czech Republic	0	0	0	0	Y	C	0	0
Denmark	0	0	2	0	Y	C	0	0
Estonia	0	0	0	0	Y	C	0	0
Finland	0	0	0	0	Y	C	0	0
France	0	0	1	0	Y	C	0	0
Germany	1	0	4	0	Y	C	0	0
Greece	0	2	0	0	Y	C	1	0

Hungary	0	0	0	0	Y	C	9	0
Iceland	0	0	0	0	Y	C	0	0
Ireland	0	0	0	0	Y	C	0	0
Italy	0	0	0	0	Y	C	0	0
Latvia	0	0	0	0	Y	C	0	0
Liechtenstein	.	.	.	.	.	.	.	.
Lithuania	0	0	0	0	Y	C	0	0
Luxembourg	0	0	0	0	Y	C	0	0
Malta	0	0	0	0	Y	C	0	0
Netherlands	0	0	0	0	Y	C	0	0
Norway	0	0	0	0	Y	C	0	0
Poland	0	0	0	0	Y	C	0	0
Portugal	0	0	0	1	Y	C	0	0
Romania	0	2	0	1	Y	C	2	0
Slovakia	0	0	0	0	Y	C	0	0
Slovenia	0	0	0	0	Y	C	0	0
Spain	0	0	0	0	Y	C	4	1
Sweden	0	0	0	0	Y	C	0	0
United Kingdom	28	0	6	2	Y	C	0	0
EU/EEA	**32**	**5**	**14**	**6**	**.**	**C**	**16**	**1**

Source: Country reports. Legend: Y = yes, N = no, C = case based, A = aggregated, · = no data reported, ASR: age-standardised rate, - = no notification rate calculated

Discussion

Anthrax is a rare disease in the EU/EEA countries. Between 2010 and 2014, 58 confirmed cases were reported via the European Surveillance System (TESSy) by EU/EEA countries, ranging from one to 32 per year.

A large proportion of these cases were reported in people who inject drugs and were part of European outbreaks affecting consumers of contaminated heroin in western and northern European countries.

Since 2009, anthrax has emerged among heroin users in Europe, presenting a novel clinical manifestation, 'injectional anthrax', which has been attributed to contaminated heroin distributed throughout Europe. Before 2009, only one such case had been reported. In 2009–2010, Scotland experienced the largest ever outbreak of injectional anthrax, with 119 cases identified [1]. A few cases, most likely linked to the same contaminated batch of heroin, were also reported in Germany and the UK [2]. In 2012 and 2013, new cases of injectional anthrax were diagnosed in Denmark, France, Germany and the United Kingdom [3].

Cutaneous anthrax is usually the most common form of anthrax and can occur after contact with infected livestock [4]. All nine cases reported in Hungary in 2014 showed symptoms of cutaneous anthrax and had epidemiological links to animals positive for anthrax. They were however all negative once tested, most likely since they received antibiotic therapy and wound care before laboratory testing [personal communication, Katalin Krisztalovics, National Centre for Epidemiology, Hungary, July 2015].

Public health conclusions

People most at risk of cutaneous anthrax are butchers, farmers, veterinarians or people working in the animal hide industry. Anthrax can be treated with antibiotics. Inhalational anthrax requires respiratory support in an intensive care unit.

Control measures include the appropriate destruction of dead animals: disinfection, decontamination and disposal of contaminated materials and decontamination of the environment. The spores may remain infective for decades in the soil. Workers undertaking such measures must use protective equipment [5,6].

The risk of exposure for heroin users in EU countries is presumably still present, and it cannot be excluded that additional cases among injecting drug users will be identified in the near future. Information should be disseminated to healthcare workers, drug treatment and harm reduction centres, describing the symptoms of anthrax infection to ensure early treatment and urging the provision of appropriately dosed opiate substitution treatment to prevent further anthrax cases [7].

Vaccines against anthrax are available. Vaccination is recommended for veterinarians, abattoir workers, those working with animal hides or furs, laboratory workers and armed forces in areas of high risk of exposure. Animals can be vaccinated to prevent them from being infected and passing the spores onto humans. In areas prone to the disease, particularly those that experience outbreaks or sporadic cases in livestock, annual vaccination of susceptible animals is commonly performed. The usually peracute clinical symptoms observed in unvaccinated animals lead to a rapid death and make it very unlikely that meat derived from such animals enters the food chain [8]. Meat-borne transmission of anthrax in the EU is considered a very rare event [9].

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Annex

Table. Anthrax, surveillance systems overview, 2014

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* The European Surveillance System (TESSy) is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.