



MEASLES, MUMPS AND RUBELLA 2002-2006

No. 5, 2007

Measles

2002 saw 32 measles notifications, EPI-NEWS 25/03. A total of 23 of these cases were associated with a single outbreak, in which the primary case was infected during a vacation in the Philippines.

Then followed a period of 31 months with no measles cases until April 2005, when two siblings in North Jutland were notified with measles. The source of infection could not be demonstrated, but typing was used to identify a virus genotype which had been circulating extensively in Europe for several years, EPI-NEWS 8/06.

In 2006 a total of 27 cases were notified; 14 boys/males and 13 girls/females, [Table 1](#). Among these, 24 were detected in Greater Copenhagen and three on Funen.

Table 1. Notified measles cases in 2006, by age, sex, vaccination and admission status

Age (yrs)	M	F	+ MMR	- MMR	Admitted
<2	7	1	-	8	7
2-5	0	2	-	2	2
6-10	4	2	2	4	2
11-13	1	3	-	4	0
14-19	0	0	-	0	0
20-41	2	5	-	6	5
Total	14	13	2	24	16

Genotyping and outbreaks

Among the cases notified in 2006, four virus genotypes were found, one of which had three variants. The measles virus, which was introduced from abroad, caused four minor outbreaks and three sporadic cases.

The first outbreak started in Copenhagen with a total of nine cases. The outbreak spread to the Swedish part of the Oresund region. The virus genotype was one known to circulate in Africa. The Danish cases were between 0 and 32 years, all unvaccinated, EPI-NEWS 8/06, 10/06 and 14/06.

The second outbreak comprised two siblings living in Copenhagen, one of whom had been infected during a vacation in Thailand. The virus genotype has previously been described as circulating in Thailand. The third outbreak was also found in Copenhagen with a total of ten cases and a virus genotype described to circulate in the Middle East: two children attending the same international school and the younger brother of one of these; a family with four sisters aged 12-23 years, a child of one sister and a cousin. The same

virus genotype was detected in one additional case in the area where the sisters lived. Among the ten cases, one child, aged 10 years, had been MMR vaccinated once while the others were unvaccinated.

The fourth outbreak took place on Funen, where the primary case was assumed to have been infected in Lebanon. The virus genotype has previously been described as circulating in the Middle East. The second case was a cousin to the primary case; both children were admitted to hospital. The third case is assumed to have been infected in the hospital's paediatric outpatient clinic, where the second case was admitted simultaneously.

The sporadic measles cases included three children: Two independent cases where the children had returned from Pakistan and had different variants of the same virus genotype. The virus genotype has previously been described as circulating in Pakistan. The children were eleven months and nine years old, respectively; the eldest child had been MMR vaccinated once. The third case was a one-year-old child who presented with measles four days after returning from Indonesia, where the isolated genotype circulates.

Mumps

In the period 2002-2006 a total of 36 mumps cases were notified; 15 females and 21 males. Their distribution by age, sex and vaccination status is shown in [Table 2](#).

Table 2. Notified mumps cases by age, sex, vaccination and admission status, 2002-2006

Age (yrs)	M	F	+ MMR	- MMR	Admitted
<2	2	0	1	1	0
2-5	2	0	1	1	0
6-10	1	1	2	-	0
11-13	1	1	1	1	0
14-19	1	3	1	3	2
20-71	14	10	1	12	4
Total	21	15	7	18	6

In the age group from 16 months to 19 years, one subject had been vaccinated twice and five had been vaccinated once. One adult aged 23 had been vaccinated once. No sequelae were reported after the condition. Eight cases had been infected in Spain, Great Britain, Turkey, Tunisia, Sri Lanka and Thailand, respectively. In five cases an exposure was identified.

Rubella

Rubella cases during pregnancy and congenital rubella cases are individually notifiable. No pregnancy cases have been notified since 1997 and no cases of congenital rubella have been notified since the mandatory surveillance was introduced in 1994.

Commentary

The high number of unvaccinated individuals among measles cases infected in Denmark underlines the importance of vaccination; the MMR vaccination coverage in Denmark will be addressed in a future issue of EPI-NEWS. Travellers entering areas where measles occur are still recommended to consider MMR vaccination of unvaccinated children > 9 months of age, EPI-NEWS 25/06. It is well known that the mumps component of the MMR vaccine does not afford the same high level of protection as the other components. This is one of the reasons why two MMR vaccinations should be given as recommended by the childhood vaccination programme. The absence of rubella cases during pregnancy and congenital rubella cases indicates limited virus circulation. A more exact overview of the occurrence may be obtained through a centralised report detailing the number of laboratory tests performed for rubella virus in Denmark and the number of positives detected.

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MRSA TRANSMISSION FROM DOMESTIC ANIMALS

An MRSA subtype found in the Netherlands among pigs and humans in contact with pigs has also been detected in 30 persons in Denmark during the past three years. To establish if MRSA is present in animals in Denmark, a working group including participants from the National Board of Health, Danish Veterinary and Food Administration, the Danish Working Environment Authority, Danish Food Institute and Statens Serum Institut will shortly perform a case-control study and examine domestic animals associated with cases for colonisation with MRSA.

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Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2007 figures are preliminary)

Table 1	Week 4 2007	Cum. 2007 ¹⁾	Cum. 2006 ¹⁾
AIDS	0	4	7
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	1	3	3
Diphtheria	0	0	0
Food-borne diseases	7	27	39
of these, infected abroad	1	5	8
Gonorrhoea	10	24	39
Haemorrhagic fever	0	0	0
Hepatitis A	1	3	1
of these, infected abroad	0	2	0
Hepatitis B (acute)	0	1	2
Hepatitis B (chronic)	5	18	12
Hepatitis C (acute)	0	1	0
Hepatitis C (chronic)	8	28	18
HIV	8	19	15
Legionella pneumonia	3	8	10
of these, infected abroad	0	0	1
Leprosy	0	0	0
Leptospirosis	0	1	3
Measles	0	0	0
Meningococcal disease	0	0	6
of these, group B	0	0	5
of these, group C	0	0	0
of these, unspec. + other	0	0	1
Mumps	3	3	4
Neuroborreliosis	3	13	7
Ornithosis	0	0	3
Pertussis (children < 2 years)	2	8	9
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	0	1
Listeria monocytogenes	0	0	3
Streptococcus pneumoniae	0	1	5
Other aethiology	0	0	1
Unknown aethiology	0	0	3
Under registration	3	19	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	0	2	10
of these, infected abroad	0	0	9
Syphilis	2	10	8
Tetanus	0	0	0
Tuberculosis	9	30	28
Typhoid/paratyphoid fever	0	0	3
of these, infected abroad	0	0	3
Typhus exanthematicus	0	0	0
VTEC/HUS	1	3	10
of these, infected abroad	0	2	3

¹⁾ Cumulative number 2007 and in corresponding period 2006

Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 4 2007	Cum. 2007 ²⁾	Cum. 2006 ²⁾
Bordetella pertussis (all ages)	2	16	26
Gonococci	10	33	30
of these, females	2	5	6
of these, males	8	28	24
Listeria monocytogenes	1	9	4
Mycoplasma pneumoniae			
Resp. specimens ³⁾	25	101	85
Serum specimens ⁴⁾	11	58	55
Streptococci ⁵⁾			
Group A streptococci	1	10	10
Group B streptococci	2	8	8
Group C streptococci	0	1	4
Group G streptococci	4	10	14
S. pneumoniae	18	115	153
Table 3	Week 2 2007	Cum. 2007 ²⁾	Cum. 2006 ²⁾
Pathogenic int. bacteria ⁶⁾			
Campylobacter	59	101	74
S. Enteritidis	5	5	7
S. Typhimurium	2	3	18
Other zoon. salmonella	13	22	29
Yersinia enterocolitica	6	7	7
Verocytotoxin- producing E. coli	2	4	4
Enteropathogenic E. coli	2	7	11
Enterotoxigenic E. coli	2	3	8

²⁾ Cumulative number 2006 and in corresponding period 2005

³⁾ Resp. specimens with positive PCR

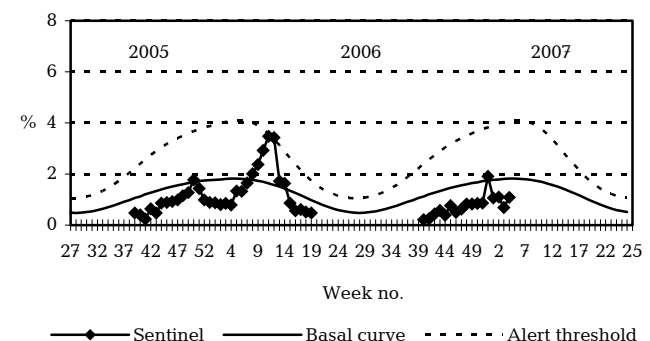
⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2005/2006/2007



Sentinel: Influenza consultations
(as percentage of total consultations)

Basal curve: Expected frequency of consultations
under non-epidemic conditions

Alert threshold: Possible incipient epidemic