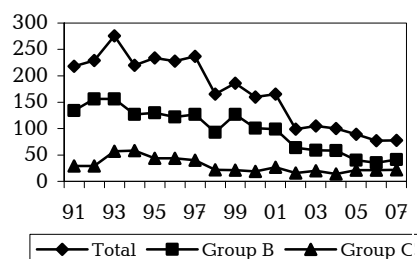


MENINGOCOCCAL DISEASE 2007

No. 12/13, 2008

In 2007 a total of 78 cases of meningococcal disease (MD) were notified, [Figure 1](#).

Figure 1. Notified cases of meningococcal disease, 1990-2007



In 24 (31%) cases, a reminder was sent for a written notification. Among the 78 patients, 23 had meningitis, 21 septicaemia and 32 both meningitis and septicaemia, while one patient had arthritis as a clinical manifestation.

Distribution by region, area and incidence is shown in [Table 1](#).

Table 1. Notified cases of meningococcal disease in 2007, by region, area and incidence per 10⁵

Region & area	No.	Incidence
Capital		
Copenhagen City	12	1.8
Copenhagen sub.	4	0.8
Northern Zealand	10	2.3
Bornholm	0	0.0
Zealand		
Eastern Zealand	1	0.4
W & S Zealand	6	1.0
Southern DK		
Funen	2	0.4
Southern Jutland	11	1.6
Central Jutland		
Eastern Jutland	15	1.9
Western Jutland	5	1.2
Northern Jutland		
Northern Jutland	11	1.9
Other/Not stated	1	-
Total	78	1.4

As previously, the incidence was highest among younger children and adolescents, [Table 2](#).

Sequelae of the disease

A total of seven patients (9%) died; all had septicaemia, [Table 2](#). Three had serogroup B meningococci, three had serogroup C and in one case the serogroup had not been determined. Among the survivors, 53 (75%) showed no signs of chronic sequelae, in four (6%) cases it could not be determined at discharge if chronic sequelae would occur, and in another four (6%)

Table 2. Patients notified with meningococcal disease in 2007, by age, serogroup, M/F ratio, incidence per 10⁵ and number of deaths

Age (yrs)	B	C	W135	Y	Un-known	Total	M/F ratio	Incidence	Deaths
< 1	3	1	0	0	3	7	2.5	10.9	1
1-2	8	2	0	0	1	11	1.2	8.4	1
3-6	5	0	0	0	1	6	5.0	2.3	0
7-13	1	2	0	0	2	5	0.7	1.0	0
14-17	8	9	0	1	2	20	1.0	7.6	4
18-29	6	3	0	0	2	11	0.6	1.5	0
30-39	2	0	0	0	1	3	0.5	0.4	0
40+	8	5	1	1	0	15	0.9	0.6	1
Total	41	22	1	2	12	78	1.1	1.4	7

cases no sequelae information had been provided on the notification form. Three cases (4%) suffered severe neurological sequelae: Two developed hearing impairment and motor problems in one or both legs and one suffered paresis in one arm, probably caused by a pressure damage from lying in the home for an extensive period of time prior to admission.

Another two cases developed hearing impairment, one of whom also had postural instability and reduced short-term memory. One experienced tinnitus and dizziness in the aftermath of the infection. One child developed adrenal cortex insufficiency caused by haemorrhage in the adrenal glands. One young adult developed functional loss and was referred to rehabilitation. One adult suffered sleeping difficulties and reduced ability to work, and one developed fore-foot parasthesia.

Diagnosis

In 61 (78%) cases, meningococci were culture detected and in ten (13%) cases by PCR only. The remaining seven (9%) patients had clinical MD; two of these had positive meningococcal antibody titre (MAT), three had positive spinal fluid microscopy, and in two cases, the diagnosis was exclusively clinical.

In 59 of the 61 culture verified cases and in 10 of the PCR verified cases, the group was determined: 41 serogroup B, 22 C, two Y, and two W135. One group B case was diagnosed in a boy who while travelling in Spain had been playing with a Spanish boy who was also subsequently admitted with MD. Another group B case occurred in a girl returning from Turkey. Yet another girl fell ill while returning from a journey to Greece; serogrouping information was not provided.

Clusters

In addition to the above mentioned related cases in a Danish and a Spanish boy, a 15-year-old girl fell ill one day after her cousin; both cases were group B. The girl had not been in contact with the cousin during the month leading up to disease onset, but other family members had, which suggests a common asymptomatic carrier. During a three-week period in March-April 2007, four persons aged 15-17 years died from MD. The four cases were unrelated, EPI-NEWS 16/07.

Comment

In 2007 the number of MD notifications roughly equalled that of 2006, EPI-NEWS 13/07. The number of cases is still low in comparison with the 1990s, when 150-300 annual cases were recorded. A small increase was observed in the number of cases caused by group B, while the occurrence of group C cases remained constant with an incidence of 0.4 cases per 100,000 persons. The small increase in group B cases may be explained by the fact that the PCR method has largely replaced the serological diagnostic method (MAT) which has led to an increase in the number of cases with group determination. For phenotypic characterisation (serotyping and serosubtyping), there is no indication of increases in any specific types.

MD surveillance is based on physicians' notifications and on the collaborative efforts of the clinical microbiology departments which forward the positive *N. meningitidis* isolates to the Neisseria Reference Laboratory at SSI.

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Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2008 figures are preliminary)

Table 1	Week 12 2008	Cum. 2008 ¹⁾	Cum. 2007 ¹⁾
AIDS	0	9	9
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	4	2
Diphtheria	0	0	0
Food-borne diseases	3	69	127
of these, infected abroad	1	17	22
Gonorrhoea	4	76	85
Haemorrhagic fever	0	0	0
Hepatitis A	0	14	10
of these, infected abroad	0	5	4
Hepatitis B (acute)	0	2	6
Hepatitis B (chronic)	0	42	61
Hepatitis C (acute)	0	3	2
Hepatitis C (chronic)	0	88	74
HIV	0	37	70
Legionella pneumonia	1	21	26
of these, infected abroad	0	10	4
Leprosy	0	0	0
Leptospirosis	0	1	4
Measles	0	4	0
Meningococcal disease	0	17	14
of these, group B	0	6	6
of these, group C	0	4	5
of these, unspec. + other	0	7	3
Mumps	0	12	2
Neuroborreliosis	0	18	22
Ornithosis	0	1	1
Pertussis (children < 2 years)	6	24	22
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	0	1
Listeria monocytogenes	0	1	5
Streptococcus pneumoniae	0	22	28
Other aethiology	0	10	4
Unknown aethiology	0	6	3
Under registration	2	9	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	2	16	12
of these, infected abroad	2	14	6
Syphilis	2	28	25
Tetanus	0	0	0
Tuberculosis	6	91	77
Typhoid/paratyphoid fever	2	9	3
of these, infected abroad	2	7	3
Typhus exanthematicus	0	0	0
VTEC/HUS	3	25	41
of these, infected abroad	2	7	11

¹⁾ Cumulative number 2008 and in corresponding period 2007

Selected laboratory diagnosed infections

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

Table 2	Week 12 2008	Cum. 2008 ²⁾	Cum. 2007 ²⁾
Bordetella pertussis (all ages)	1	34	37
Gonococci	5	91	83
of these, females	2	19	12
of these, males	3	72	71
Listeria monocytogenes	0	5	13
Mycoplasma pneumoniae			
Resp. specimens ³⁾	0	34	206
Serum specimens ⁴⁾	1	41	211
Streptococci ⁵⁾			
Group A streptococci	0	35	36
Group B streptococci	0	23	23
Group C streptococci	0	3	4
Group G streptococci	0	24	29
S. pneumoniae	0	295	341

Table 3	Week 10 2008	Cum. 2008 ²⁾	Cum. 2007 ²⁾
MRSA	9	97	-
Pathogenic int. bacteria ⁶⁾			
Campylobacter	32	327	459
S. Enteritidis	4	59	48
S. Typhimurium	10	66	53
Other zoon. salmonella	9	140	105
Yersinia enterocolitica	3	41	53
Verocytotoxin-producing E. coli	7	28	47
Enteropathogenic E. coli	2	16	33
Enterotoxigenic E. coli	4	58	28

²⁾ Cumulative number 2008 and in corresponding period 2007

³⁾ Resp. specimens with positive PCR

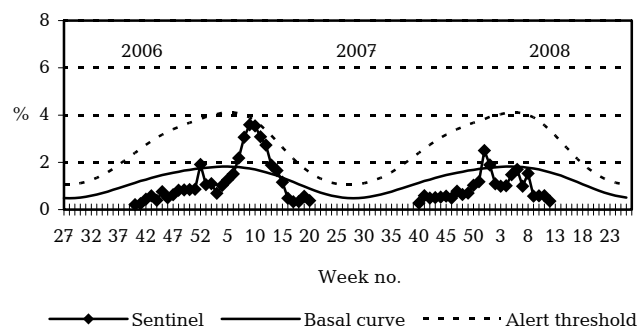
⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2006/2007/2008



Sentinel: Influenza consultations (as percentage of total consultations)
 Basal curve: Expected frequency of consultations under non-epidemic conditions
 Alert threshold: Possible incipient epidemic

26 March 2008