

PURULENT MENINGITIS 2003

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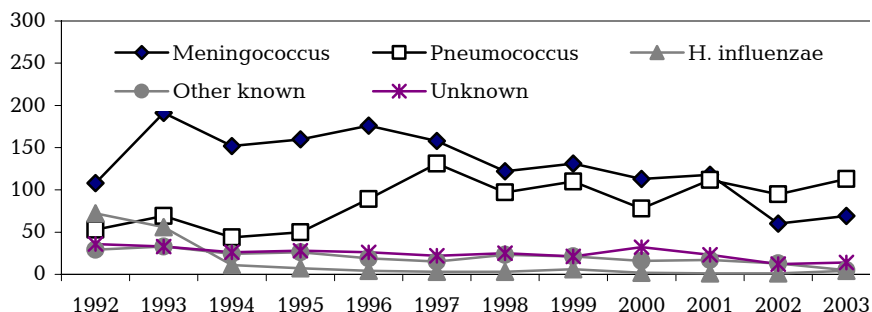
In 2003, there were 205 notified cases of purulent meningitis. Fig. 1 and table 1 show distribution according to aetiology and age, as well as age-specific incidence. The occurrence of meningococcal meningitis has previously been discussed in EPI-NEWS 25/04.

Pneumococcal meningitis

There were 113 notified cases of pneumococcal meningitis, 51 males and 62 females. This corresponds to 18 more cases than in 2002, but at the same level as 2001, EPI-NEWS 35/03. Reminders were sent for 68 (60%) notifications. A total of 17% of the patients were children <1 years, 60% were >40 years and 19% were >65 years.

For at least 76 (67%) patients, information was provided about a predisposing factor: 35 had otitis media or another infection in the ear-nose-throat region, 18 had pneumonia and one had septic arthritis. Four had a dural defect. Three contracted meningitis in relation to or just after an operation (mastoidectomy, subdural haematoma and epidural abscess). Two had previously been operated in the head (acoustic neurinoma, meningioma). Seven patients had another underlying disease, and four were alcohol misusers. Two patients had previously undergone splenectomy; both had been vaccinated within the last five years. From both, pneumococci were isolated with serotypes that were not covered by the 23-valent pneumococcal polysaccharide vaccine. For 55 (49%) patients, information was provided about sequelae or death. Five developed unilateral or bilateral complete hearing loss, and at least 11 developed a hearing deficit. Eleven developed neurological injury; three of these, severe injury. Two developed other sequelae.

Fig. 1. Notified cases of purulent meningitis, by bacteriological aetiology, 1992-2003



A total of 26 (23%) patients died in association with the infection. The mortality varied with age: 0-20 years: 10%, 21-60 years: 24%, >60 years: 33%.

H. influenzae meningitis

There were four notified patients with H. influenzae meningitis, including one type b (Hib). This patient was two years old and unvaccinated. The remaining patients were 2, 7 and 79 years old, respectively. The 79-year old patient subsequently developed a hearing deficit. Two patients had a predisposing factor.

Listeria meningitis

There were two notified patients with Listeria meningitis, aged 75 and 85 years, respectively. One patient, who also had a malignant disease, died in relation to the infection.

Streptococcal meningitis

There were two notified cases of streptococcal meningitis, one caused by group B and one of unknown group. One patient was 80 years old and died in relation to the infection. The other patient was 28 days old.

Other bacterial aetiology

Notification was made of a 55-year

old patient with meningitis caused by Klebsiella pneumoniae after spinal anaesthesia.

Purulent meningitis, unknown aetiology

There were 14 notified patients with meningitis of unknown aetiology. The patients were aged 4 months to 76 years. Six had a negative MAT (meningococcal antibody test). Three of the patients had another infection simultaneously, one was an alcohol misuser and one had another predisposing factor. One patient died in relation to the infection, one developed neurological injury and one developed a hearing deficit.

Comments

In 2003, there was a total of 24 more cases of purulent meningitis than in 2002, and this was particularly due to an increase in the number of cases of pneumococcal meningitis. The overall mortality was 17% (35/205). The incidence of Hib meningitis has been very low for the last ten years, with a total of only 15 notified cases, EPI-NEWS 19/04.

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Table 1. Patients with purulent meningitis 2003 (2002), by aetiology, age and age-specific incidence per 10⁵

Age (years)	Meningococcus	Pneumococcus	H. influenzae	Listeria	Streptococcus	Other	Unknown	Total	Incidence
0	3	19	0	0	1	0	1	24	37.4
1-5	22	9	2	0	0	0	3	36	10.7
6-10	9	2	1	0	0	0	0	12	3.4
11-15	13	0	0	0	0	0	2	15	4.7
16-20	12	1	0	0	0	0	0	13	4.6
21-30	1	3	0	0	0	0	1	5	0.7
31-40	2	11	0	0	0	0	1	14	1.7
41-50	2	14	0	0	0	0	2	18	2.4
51-60	4	21	0	0	0	1	1	27	3.6
61-70	1	17	0	0	0	0	1	19	3.9
71+	0	16	1	2	1	0	2	22	4.2
Total 2003	69	113	4	2	2	1	14	205	3.4
(Total 2002)	(60)	(95)	(1)	(5)	(5)	(3)	(12)	(181)	(3.0)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, Statens Serum Institut. Figures for 2004 are preliminary.

Table 1	Week 35 2004	Cum. 2004 ¹⁾	Cum. 2003 ¹⁾
AIDS	1	31	20
Anthrax	0	0	0
Botulism	0	0	1
Cholera	1	1	0
Creutzfeldt-Jakob	1	7	5
Diphtheria	0	0	0
Food-borne diseases	18	381	335
of these, infected abroad	2	58	71
Gonorrhoea	6	229	96
Haemorrhagic fever	0	0	0
Hepatitis A	7	139	45
of these, infected abroad	5	37	16
Hepatitis B (acute)	2	26	32
Hepatitis B (chronic)	2	107	125
Hepatitis C (acute)	0	0	5
Hepatitis C (chronic)	1	179	176
HIV	5	204	155
Legionella pneumonia	5	56	57
of these, infected abroad	1	14	15
Leprosy	0	0	0
Leptospirosis	0	1	2
Measles	0	0	0
Meningococcal disease	2	53	77
of these, group B	0	33	43
of these, group C	0	6	17
of these, unspec. + other	2	14	17
Mumps	0	2	2
Neuroborreliosis	7	49	17
Ornithosis	0	4	6
Pertussis (children < 2 years)	6	123	83
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	2	2
Listeria monocytogenes	0	1	1
Streptococcus pneumoniae	0	67	77
Other aethiology	0	3	2
Unknown aethiology	0	11	11
Under registration	2	26	0
Rabies	0	0	-
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	4	49	65
of these, infected abroad	1	37	55
Syphilis	1	100	37
Tetanus	0	0	0
Tuberculosis	23	313	281
Typhoid/paratyphoid fever	0	11	19
of these, infected abroad	0	9	12
Typhus	0	0	0
VTEC/HUS	2	93	72
of these, infected abroad	1	16	16

¹⁾ Cumulative number of cases notified in 2004 and in the corresponding period of 2003

Selected laboratory-diagnosed infections

Number of specimens, isolates, and/or notifications received at Statens Serum Institut.

Table 2	Week 35 2004	Cum. 2004 ²⁾	Cum. 2003 ²⁾
Bordetella pertussis (all ages)	37	589	371
Gonococci	9	250	163
of these, females	2	34	22
of these, males	7	216	141
Listeria monocytogenes	2	28	20
Mycoplasma pneumoniae			
Resp. specimens ³⁾	5	110	119
Serum specimens ⁴⁾	12	245	347
Streptococci ⁵⁾			
Group A streptococci	1	90	113
Group C streptococci	0	14	14
Group G streptococci	1	71	82
S. pneumoniae	7	877	817
Table 3	Week 34 2004	Cum. 2004 ²⁾	Cum. 2003 ²⁾
Pathogenic int. bacteria ⁶⁾			
Campylobacter	117	2289	2154
S. Enteritidis	14	335	469
S. Typhimurium	13	287	297
Other zoon. salmonella	14	310	348
Yersinia enterocolitica	5	135	153

²⁾ Cumulative number in 2004 and in the corresponding period of 2003

³⁾ Resp. specimens with positive PCR

⁴⁾ Serum specimens with pos. complement fixation test, MPT

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Cholera: One case diagnosed with *Vibrio cholerae* has been reported, imported from Pakistan. Cholera was last diagnosed in Denmark in 1998, with three reported cases.

Patients with laboratory-diagnosed pertussis*)

1st and 2nd quarter 2004 and the corresponding period 2003

Age	1st quarter 2004				1st qtr 2003
	Jan	Feb	Mar	Total	Total
< 2 yrs	18	15	13	46	48
2-17 yrs	47	34	25	106	155
> 18 yrs	9	8	16	33	32
Total	74	57	54	185	235
Age	2nd quarter 2004				2nd qtr 2003
	Apr	May	Jun	Total	Total
< 2 yrs	12	6	19	37	12
2-17 yrs	26	48	62	136	49
> 18 yrs	5	12	26	43	13
Total	43	66	107	216	74

*) Diagnosed by culture and PCR