



PURULENT MENINGITIS 2004

No. 37, 2005

2005 saw a total of 207 notified cases of purulent meningitis. [Figure 1](#) and [table 1](#) present distribution by aetiology and age, and the age-specific incidence. Meningococcal meningitis has been reported in detail in EPI-NEWS 15/05.

Pneumococcal meningitis

In 2004, there were 101 notified cases of pneumococcal meningitis, 52 males and 49 females. Reminders were sent for 53 (52%) notifications. A total of 16% of the patients were children <1 year, and 64% were >40 years.

For 66 (65%) patients, information was available about at least one pre-disposing factor: 27 had otitis media or other infection in the ear-nose-throat region, 17 had pneumonia, and one had septic arthritis. Two patients had a dural defect, three had previous head trauma or neurosurgical intervention, and one patient had meningitis one month after sinus operation. Two patients had previously undergone splenectomy, both were vaccinated more than five years previously. From both, pneumococci were isolated with serotypes covered by the 23-valent pneumococcus polysaccharide vaccine. Five patients had diabetes, five were alcohol abusers, and seven had another underlying disease.

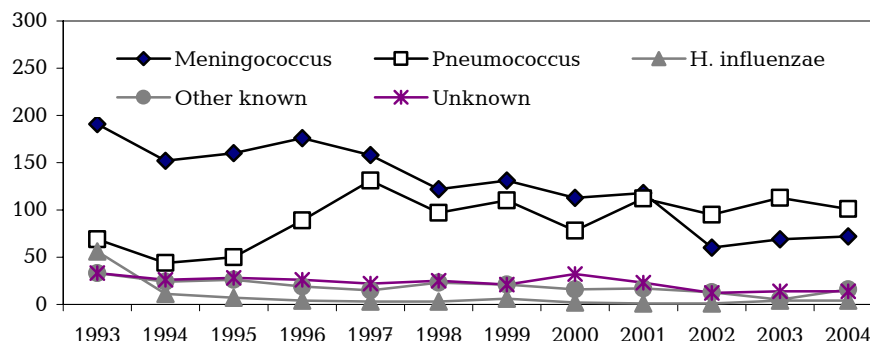
For 20 (20%) patients, information was provided about sequelae. Two suffered double-sided hearing loss, and a further six suffered impaired hearing. Eight suffered other neurological injuries, three severe. Four developed other sequelae.

A total of 21 (21%) patients died in association with the infection. Mortality varied with age: 0-20 years: 10%, 21-60 years: 18%, >60 years: 31%.

Haemophilus influenzae meningitis

There were four notified cases of

Figure 1. Notified cases of purulent meningitis, by bacteriological aetiology, 1993-2004



H. influenzae meningitis, including one type b (Hib). This patient was 14 months old and vaccinated three times. The remaining patients were aged 58, 62 and 66 years, and all had a focus in the ear; two subsequently developed hearing impairment.

Listeria meningitis

There were four notified cases of Listeria meningitis, a new-born baby and three adults, aged 51, 68 and 79 years, respectively. One adult patient died, and one developed mild neurological sequelae. Three of the patients had pre-disposing factors.

Streptococcal meningitis

There were three notified cases of meningitis caused by haemolytic streptococci group B. The ages of these patients were 1 day, 1½ months and 47 years. Neurological sequelae could not be excluded in one of the children, and the adult died in association with the infection. Notification was made of a 35-year old patient with meningitis caused by Streptococcus salivarius after spinal anaesthesia. This patient developed sequelae in the form of hearing deficit, tinnitus and dizziness.

Other and unknown aetiology

There were eight notified cases of

other bacterial aetiology. Three newborn babies had E. coli meningitis, in one probably originating in an infected wound. Two patients (48 and 76 years) had meningitis caused by Pasteurella multocida, one of these was possibly infected abroad and had no known animal contact. The other patient developed infection in one arm after being scratched by a dog and subsequently developed meningitis. This patient developed severe neurological injuries. Other causes included Actinomyces israelii (39-year old man), Klebsiella pneumoniae (68-year old man) and Pseudomonas spp. (69-year old man). There were 14 notified cases aged 1 month to 82 years with meningitis of unknown aetiology. Three of these patients had received antibiotics before admission.

Comments

The number of notified cases was at the same level as in 2003, but the aetiological spectrum had changed, with fewer cases of pneumococcal meningitis and more of uncommon cause.

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Table 1. Patients with purulent meningitis 2004 and 2003, by aetiology, age and age-specific incidence per 10⁵

Age (years)	Meningococcus	Pneumococcus	H. influenzae	Listeria	Streptococcus	Other	Unknown	Total	Incidence
0	8	16	0	1	2	3	2	32	49.2
1-5	15	7	1	0	0	0	0	23	6.9
6-10	5	1	0	0	0	0	1	7	2.0
11-15	13	4	0	0	0	0	0	17	5.1
16-20	14	1	0	0	0	0	1	16	5.6
21-30	0	0	0	0	0	0	2	2	0.3
31-40	0	7	0	0	1	1	1	10	1.2
41-50	3	11	0	0	1	1	4	20	2.7
51-60	5	15	1	1	0	0	0	22	2.9
61-70	7	22	2	1	0	2	1	35	6.9
71+	2	17	0	1	0	1	2	23	4.4
Total 2004	72	101	4	4	4	8	14	207	3.8
Total 2003	69	113	4	2	2	1	14	205	3.4

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2005 figures are preliminary)

Table 1	Week 36 2005	Cum. 2005 ¹⁾	Cum. 2004 ¹⁾
AIDS	0	39	33
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	2	7
Diphtheria	0	0	0
Food-borne diseases	14	353	428
of these, infected abroad	1	79	65
Gonorrhoea	8	361	235
Haemorrhagic fever	0	0	0
Hepatitis A	1	45	159
of these, infected abroad	1	13	43
Hepatitis B (acute)	0	25	29
Hepatitis B (chronic)	1	98	95
Hepatitis C (acute)	0	1	2
Hepatitis C (chronic)	9	231	223
HIV	4	206	206
Legionella pneumonia	1	72	65
of these, infected abroad	0	21	18
Leprosy	0	0	0
Leptospirosis	0	9	2
Measles	0	2	0
Meningococcal disease	0	64	72
of these, group B	0	33	41
of these, group C	0	15	10
of these, unspec. + other	0	16	21
Mumps	0	6	1
Neuroborreliosis	1	49	77
Ornithosis	1	15	5
Pertussis (children < 2 years)	3	112	142
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	3
Listeria monocytogenes	0	1	1
Streptococcus pneumoniae	0	81	76
Other aethiology	0	12	6
Unknown aethiology	0	11	12
Under registration	3	22	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	0	75	51
of these, infected abroad	0	61	41
Syphilis	5	90	103
Tetanus	0	2	0
Tuberculosis	10	309	301
Typhoid/paratyphoid fever	1	28	15
of these, infected abroad	0	24	13
Typhus exanthematicus	0	0	0
VTEC/HUS	6	111	101
of these, infected abroad	1	38	18

¹⁾ Cumulative number 2005 and in corresponding period 2004

Selected laboratory diagnosed infections

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

Table 2	Week 36 2005	Cum. 2005 ²⁾	Cum. 2004 ²⁾
Bordetella pertussis (all ages)	11	372	624
Gonococci	13	319	255
of these, females	1	31	34
of these, males	12	288	221
Listeria monocytogenes	2	25	28
Mycoplasma pneumoniae			
Resp. specimens ³⁾	5	667	113
Serum specimens ⁴⁾	6	566	262
Streptococci ⁵⁾			
Group A streptococci	0	83	90
Group B streptococci	2	54	57
Group C streptococci	2	19	16
Group G streptococci	6	87	76
S. pneumoniae	12	803	888
Table 3	Week 34 2005	Cum. 2005 ²⁾	Cum. 2004 ²⁾
Pathogenic int. bacteria ⁶⁾			
Campylobacter	111	2,347	2,381
S. Enteritidis	26	412	342
S. Typhimurium	20	358	289
Other zoon. salmonella	24	363	313
Yersinia enterocolitica	3	153	138

²⁾ Cumulative number 2005 and in corresponding period 2004

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

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