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PNEUMOCOCCAL INFECTIONS AND VACCINATION

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Invasive pneumococcal disease
 Streptococcus pneumoniae is the commonest cause of septicaemia and is one of the most frequent causes of meningitis in both children and adults. In the period 1990-1996 Denmark saw a rising incidence of invasive pneumococcal infections, which has fallen since 1997 (Fig. 1). It is not known how far this fall is due to pneumococcal vaccination of risk groups or merely represents a natural variation of incidence. The age distribution of patients with invasive pneumococcal disease in 1998 shows that the incidence remains highest in small children and the elderly (Fig. 2).

Pneumonia

Pneumococci are the commonest cause of bacterial pneumonia acquired outside hospitals, probably responsible for 20-50% of cases. The incidence of pneumococcal pneumonia in Denmark is about 3-8 cases/year/1000 persons over the age of 65, which corresponds to about 4000 cases per annum. The mortality depends on the patient's general condition and is about 10-15% in the elderly. In the 20-30% of elderly patients in whom the pneumonia is complicated by septicaemia, the risk of death increases to 30-50%.

Pneumococcal vaccine

The vaccine consists of capsule material from the most frequent types of pneumococci. In those over two years of age who are otherwise well, the vaccine gives about 70% protection against invasive pneumococcal disease. Vaccination also protects against pneumococcal pneumonia in immunocompetent children and adults. There has long been some doubt whether the vaccine protects against pneumococcal pneumonia in the elderly. However, a recently published American study suggests that pneumococcal and influenza vaccinations potentiate each other's effect in elderly patients with chronic airways disease when they are given simultaneously. In this way both the incidence and mortality of pneumococcal pneumonia may be reduced. The first vaccination has few and rarely serious side effects. These are usually local reactions and fever during the first few days.

Fig. 1. Annual no. of pneumococcal isolates from blood and cerebrospinal fluid received by Statens Serum Institut, 1990-1998

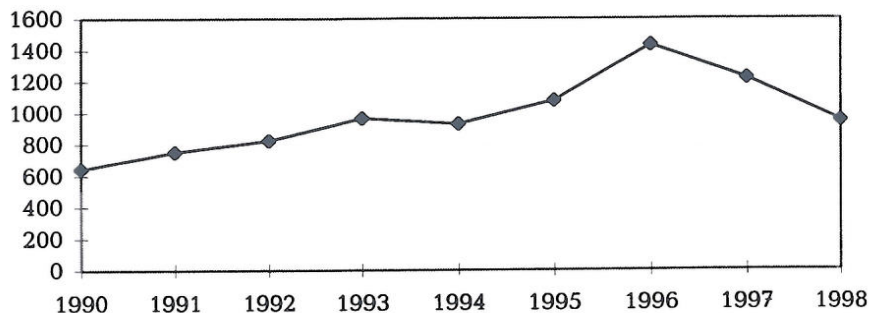
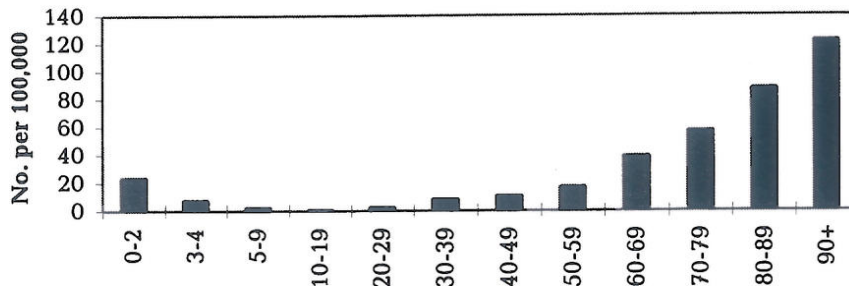


Fig. 2. Age-related incidence for pneumococcal isolates from blood and cerebrospinal fluid received by Statens Serum Institut in 1998



Pneumococcal vaccination

Pneumococcal vaccination of the elderly is now recommended in several Scandinavian and European countries.

Because of the risk of invasive disease and pneumonia, the following groups may benefit from vaccination:

- Splenectomized patients.
- Patients with chronic heart, lung, liver or kidney disease or diabetes mellitus.
- Patients with a CSF leak.
- Persons over 65 years, especially those who have previously had pneumonia.
- Patients with a reduced immune defence, e.g. with HIV infection, lymphoma or Hodgkin's disease.

The vaccine is not immunogenic in children under two years of age and should therefore not be given to this age group.

The vaccine is given once, which provides protection for at least five years. Splenectomized patients should be tested for antibodies five years after vaccination with a view to revaccination (EPI-NEWS 16/96). Studies are in progress to elucidate the advisability of revaccinating the

other risk groups and whether prior antibody testing is necessary.

At the present time revaccination against pneumococcal infection without prior antibody testing is still regarded as contraindicated. This is because high remaining antibody levels may cause pronounced local reactions in the form of severe pain and swelling after revaccination. Pneumococcal vaccine can be given at the same time as influenza vaccine, but at separate injection sites. The cost of the vaccine is normally paid by the patient.
 (H.B. Konradsen, Strep. Unit)

QUARTERLY REPORT 3rd QUARTER, 1999

As shown overleaf, the 3rd quarter of 1999 saw a rise in notifications of tuberculosis to a total of 151 cases. The rise occurred chiefly in the Municipality and County of Copenhagen, especially among foreigners. 39 cases of paratyphoid fever were notified, due to the outbreak in travellers from Alanya, Turkey.
 (Department of Epidemiology)

3 November 1999

Patients with selected individually notifiable diseases

Notifications received July-September 1999, by county, compared with the same period of 1998

County	AIDS		Hepatitis A		Meningococcal disease		Tuberculosis	
	1999	1998	1999	1998	1999	1998	1999	1998
Cph. Municipality	1	6	5	15	2	6	45	33
Frb. Municipality	1	2	2	-	-	-	4	1
Copenhagen	1	1	6	12	-	3	22	16
Frederiksborg	1	1	4	1	2	2	9	5
Roskilde	1	-	2	-	-	1	1	4
West Zealand	1	-	1	-	1	-	4	2
Storstrøms	-	2	-	2	1	-	6	7
Bornholms	-	-	-	-	1	-	2	1
Funen	1	-	1	-	7	2	16	16
South Jutland	-	-	-	-	2	-	-	4
Ribe	-	-	-	1	1	2	-	-
Vejle	-	-	-	-	3	2	10	2
Ringkøbing	-	-	1	-	3	-	3	4
Aarhus	2	3	5	-	-	4	19	17
Viborg	1	-	-	-	2	2	4	4
North Jutland	-	-	1	1	7	3	6	11
Other	-	-	-	1	1	-	-	1
Whole country	10	15	28	33	33	27	151	128

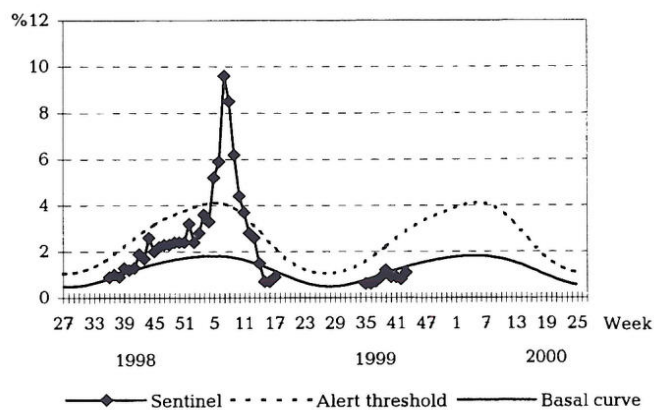
Patients with other individually notifiable diseases

Notifications received July-September 1999 and 1998, whole country

	July-September	
	1999	1998
Bacterial meningitis	32	22
Hepatitis B	11	23
Hepatitis C	3	3
Hepatitis B+C	-	5
Legionellosis	21	34
Measles	3	10
Mumps	5	8
Paratyphoid fever	39	4
Pertussis < 2 yrs	54	37
Psittacosis	8	11
Shigellose	17	51
Typhoid fever	12	7

Influenza activity in sentinel surveillance

Weekly percentage of consultations, 1998/1999/2000



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

Up to the end of week 43 the Department of Virology has received 15 secretion specimens from sentinel physicians. None has so far been positive for influenza virus. More physicians are needed for sentinel surveillance. Interested physicians are invited to get in touch with the Department of Epidemiology for further details, tel. +45 3268 3265/3356.