

LEGIONELLA PNEUMONIA 2000

No. 36, 2001

Notified cases

In 2000 a total of 92 cases of Legionella pneumonia were notified, 53 men and 39 women. The median age was 56 years (range 13-92 years). In 72 cases the diagnosis was laboratory-confirmed, [Table 1](#), while in 18 cases the laboratory findings supported the diagnosis without being conclusive. Fifty patients (54%) had a known predisposing factor while nine (10%) were previously healthy. Prior health status was not stated for the remaining 33 cases (36%). Sixteen patients (17%) died, at least 11 of whom had a predisposing factor. The county distribution of confirmed cases acquired in Denmark is shown in [Table 2](#). Fortytwo notifications (46%) were only received after a reminder had been sent.

Table 1. Notified cases of Legionella pneumonia, 2000

Category	To-tal	Diagn. confmd.	Predis. factor	Deaths
Travel-rel.	18	17	7	4
Nosocom.	15	12	14	5
Others, DK	59	43	29	7
Total	92	72	50	16

Table 2. Notified confirmed cases of Legionella pneumonia acquired in Denmark, 2000 (1999)

County	2000	(1999)	Incidence per mill.
Cph. Municip.	9	(5)	18.2
Frb. Municip.	3	(1)	33.2
Cph. County	6	(7)	9.8
Frederiksborg	4	(0)	10.9
Roskilde	4	(6)	17.3
West Zealand	2	(7)	6.8
Storstrøm	0	(1)	0.0
Bornholm	0	(0)	0.0
Funen	8	(6)	17.0
South Jutland	2	(0)	7.9
Ribe	0	(2)	0.0
Vejle	4	(4)	11.5
Ringkøbing	4	(1)	14.7
Aarhus	6	(8)	9.4
Viborg	1	(3)	4.3
North Jutland	1	(6)	2.0
Other	1	(1)	-
Total	55	(58)	10.3

Travel-related cases

A fifth of the cases were travel-related, [Table 1](#), 17 to travel abroad and one to a hotel in Denmark where a case had also occurred in 1999. Four patients had been to France, three to Italy, two to Portugal, six to other European countries, one to Turkey

and one to the USA. Denmark is represented in the European Working Group for Legionella Infections (EWGLI), which also surveys travel-related cases. Statens Serum Institut is informed if more than one case of legionnaires' disease related to the same place (usually a hotel) is reported within two years (a cluster). During 2000 Danish tourists were involved in four clusters.

Table 3. Nosocomial cases of Legionella pneumonia by hospital, 2000 (see text)

Hospital	Def.	Pos.	Total
Gentofte	0	1	1
Hvidovre	1	0	1
Odense	5	2	7
Cph. University Hosp.	0	1	1
Roskilde	1	0	1
Køge	0	1	1
Sankt Hans	1	0	1
Skive	1	0	1
Vejle	0	1	1
Aarhus County	0	1	1
Total	9	7	16

Nosocomial cases

15 nosocomial cases (16%) were notified, [Table 1](#), and an additional un-notified case was recorded by the National Centre for Hospital Hygiene. The mortality was 31%, similar to that for previous years. The distribution among hospitals is shown in [Table 3](#). A case is regarded as definitely nosocomial if symptoms start 10 or more days after hospital admission or within two days of discharge, and as possibly nosocomial if symptoms start from two to nine days after admission. Other considerations may also apply. It may remain uncertain how far a particular hospital is the source of infection, e.g. if the patient has been transferred, discharged or readmitted.

Non-hospital cases in Denmark

64% of notified cases were acquired outside hospital in Denmark, [Table 1](#). To substantiate a possible source of infection, culture isolates must be obtained from both the patient and the water sample. In three cases, culture demonstrated the same strain in both the patient and the domestic water supply. Two patients lived in the same block of flats with a shared water supply, and they were taken ill at an interval of one month, EPI-NEWS 36/00. In seven cases a possi-

ble source of infection was stated but could not be substantiated. The source of infection was unstated for the remaining 49 cases (83%).

Laboratory diagnosis

At Statens Serum Institut 85 cases of Legionella pneumonia were diagnosed in 2000, according to the criteria described in EPI-NEWS 24/96. Eight of these cases were not notified. PCR was positive in 55 cases and was the test that gave the highest number of positive results. In 10 cases the diagnosis was made by PCR alone. Although the PCR test is both sensitive and specific, cases that have only been demonstrated by PCR are not regarded as confirmed, either in Denmark or internationally. Cases should therefore, as far as possible, be confirmed by another method. Legionella was isolated by culture of specimens from the lower respiratory tract in 31 cases: 16 were L. pneumophila serogroup 1, (L.p. sg. 1) eight were L.p. sg. 3, EPI-NEWS 43/98, three were sg. 4, one was sg. 5, two were sg 6, and one case was caused by L. micdadei. Judging from these results, a relatively high proportion of legionnaires' disease is due to serogroups other than L.p. sg. 1. This is especially pronounced for nosocomial infections. On the basis of culture-confirmed cases from 1994-2000, serogroups other than sg. 1 cause over 70% of the nosocomial cases. In practice, the commercially available tests for Legionella antigen in urine specimens reveal only sg. 1 antigen, and they are therefore unsuitable for the diagnosis of nosocomial infections.

Travel-related cases 2001

Up to August, Statens Serum Institut has already reported 19 cases to the EWGLI. Seven were related to visits to Turkey, and four of these patients had stayed at the same hotel. This hotel is no longer used by Danish travel agents. Danish tourists have up to now been involved in six clusters. Experience shows that travel-related cases also occur during autumn, and it is important to notify any cases without delay.

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Patients with confirmed *Listeria monocytogenes* infection

2nd quarter of 2001 compared with 2000

	2nd quarter 2001	2nd quarter 2000	Whole year 2000
Mother/child infection	1	1	7
Septicaemia	8	6	24
Meningitis	5	0	8
Other	0	0	0
Total	14	7	39

(Dept. of Gastrointestinal Infections)
