

TUBERCULOSIS 2002, PART III

No. 47, 2003

Microbiological diagnostics

The diagnosis of TB was culture-confirmed in 321 out of 419 notified cases (77%), which is comparable to that in 2001 (75%), EPI-NEWS 48/02. Nevertheless, it still represents a reduction relative to 1996-2000 (average 82%). The proportions among Danes and immigrants were 78% and 76%, respectively. Of 308 notified pulmonary TB cases (\pm second localisation), 240 (78%) were verified by culture: 113 Danes and 127 immigrants.

Among the 113 Danes with culture-confirmed pulmonary TB, 69 (61%) had positive microscopy on at least one respiratory specimen and were therefore considered to be infectious. A further five had positive microscopy on gastric lavage. Among the 127 immigrants with culture-confirmed pulmonary TB, 55 (43%) had positive microscopy on at least one respiratory specimen, while a further 15 had positive microscopy on gastric lavage. In two patients, *Mycobacterium bovis* was identified: an elderly Danish woman with infectious pulmonary TB, and a 39-year-old man of foreign origin in an intestinal biopsy.

Drug resistance

Resistance has been tested for 316 (99%) of 319 patients with *M. tuberculosis* found on culture. Resistance is routinely tested for rifampicin (R), isoniazid (H), ethambutol (E) and pyrazinamide (Z), and, until the turn of the year 2003-2004, also for streptomycin (S). Resistant TB was detected in 43 patients (14%), including a young woman of Pakistani origin in whom multi-drug resistant (MDR) extra-pulmonary TB was detected. Apart from R and H resistance, which is the criterion for MDR, the isolate was simultaneously resistant to E and S. The isolate was examined by DNA subtyping and had a unique pattern. Hence, there is still no sign of spread of MDR TB in Denmark. The following resistance patterns were detected in 2002: 1 MDR TB, 1 RS, 8 HS, 5 H, 1 HEZ, 1 HZS, 2 E, 2 Z and 22 S. Nine (8%) out of 119 Danes and 34 (17%) out of 197 immigrants had resistant TB. The proportion of resistant isolates among new patients and patients with relapse was 40 (14%) out of 292 and three (13%) out of 24 patients, respectively. Among 106 Danes with newly diagnosed TB, nine (8%) had resistant isolates. This is higher than for the period 1991-

1998. Resistance was not detected among 13 Danes with recurrent TB. In August 2002, a decision was made to lower the concentration at which the determination of resistance for isoniazid and streptomycin is performed, thus complying with international recommendations. Isoniazid is now tested at 0.1 $\mu\text{g/ml}$, as against the former 0.4 $\mu\text{g/ml}$, and streptomycin is tested at 2 $\mu\text{g/ml}$, as against the former 6 $\mu\text{g/ml}$. On detection of isoniazid resistance at 0.1 $\mu\text{g/ml}$, determination of resistance is automatically conducted at 0.4 and 2.0 $\mu\text{g/ml}$, which are also therapeutically attainable concentrations. Adaptation to international recommendations may imply an increased number of resistant TB cases in Denmark over the next few years. In keeping with the above, the TB expert panel now also recommends that the daily dose of rifampicin be increased to 600 mg, whereby the dose is adjusted to int. recommendations.

(V. Ø. Thomsen, Int. Reference Laboratory of Mycobacteriology)

Comments to parts I and III

Although the decline in the numbers of TB cases is encouraging, a number of factors need to be pointed out. The trend observed over many years is that the diagnosis of TB is made by culture in fewer patients. This means a more uncertain diagnosis and no opportunity to detect resistance or to follow chains of infection by DNA subtyping. The lower proportion of culture-confirmed cases could be an expression of early diagnosis. In contradiction to this, a great proportion of patients with pulmonary TB are infectious, and this might suggest that the diagnosis in many cases is made too late. This increases the risk of further spread of infection, with a consequent increase in consumption of resources on contact tracing and isolation of infectious patients. In addition, it is of great concern that a source of infection is specified for only about half of children with TB, as most of them must have been only recently infected.

If Denmark is to approach the eradication of TB, more attention must be paid to ensure that patients with lung symptoms consistent with TB, who do not respond to conventional treatment, are referred for further investigation. Likewise, comprehensive contact tracing must be performed in cases of infectious lung TB.

The level of resistance is comparable with the previous 5-year period, where an average of 14% of isolates were resistant. The number of patients with isoniazid and streptomycin-resistant TB has fallen from 15 in 2001, EPI-NEWS 49/02, to only eight in 2002. Immigrants still have a higher proportion of resistant TB than Danes. An important parameter for the evaluation of the national TB programme is the proportion of resistant TB among new cases of TB among Danes, as this proportion reflects transmission of resistant strains within the country. WHO stipulates that this proportion should be a maximum of 5% in countries with a good TB control programme. This proportion is at present 8% in Denmark, as against 6% in the period 1991-1998.

(P. Andersen, Dept. of Epidemiology, V. Ø. Thomsen, Int. Reference Laboratory of Mycobacteriology)

INFLUENZA VACCINATION OF CHILDREN

SSI has received numerous enquiries about flu vaccination of children. The National Board of Health still recommends that children over 6 months who belong to a risk group be vaccinated. This includes children who are undergoing treatment and follow-up for chronic lung disease, chronic heart disease or diabetes, or have impaired immune defences, EPI-NEWS 39/03. The need depends on a medical assessment. The recommendation does not include healthy children.

For children who have not previously been vaccinated against influenza in a risk group, the following rules apply:

- Children aged 6-36 months should receive half dose and be vaccinated twice at four weeks' interval,
- Children aged 3-9 years should receive full dose and be vaccinated twice at four weeks' interval.
- All others should only receive one vaccination.

In England and Scotland, there have been no further cases of death due to influenza among children, apart from five in September-October.

(S. Samuelsson, Dept. of Epidemiol.)

NEW MEMBER OF STAFF

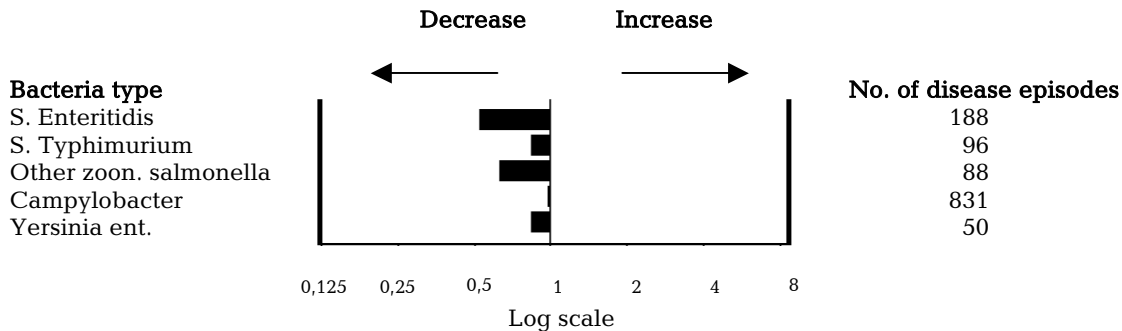
As from 1 November, Anne Mazick has been appointed as EPIET fellow for a 2-year period in the Department of Epidemiology.

20 November 2003

Patients with positive cultures of pathogenic intestinal bacteria, September-October 2003

County	S. Enteritidis		S. Typhimurium		Other zoon. salmonella		Campylobacter		Yersinia ent.	
	Sep	Oct	Sep	Oct	Sep	Oct	Sep	Oct	Sep	Oct
Copenhagen Munic.	17	16	6	5	7	6	48	35	2	2
Frederiksberg Munic.	2	-	1	-	-	-	8	5	-	-
Copenhagen	11	10	9	4	8	7	65	53	-	4
Frederiksborg	10	5	7	5	3	2	27	25	-	1
Roskilde	4	4	-	4	2	2	21	15	2	-
West Zealand	3	5	2	2	3	1	21	12	-	-
Storstrøm	3	8	3	1	2	1	21	17	1	2
Bornholm	-	1	-	-	-	-	-	4	-	-
Funen	12	13	5	3	3	1	41	46	4	3
South Jutland	6	4	2	1	1	-	15	11	-	-
Ribe	5	2	1	-	6	4	22	13	3	2
Vejle	4	2	5	7	2	1	35	26	-	-
Ringkøbing	7	1	3	2	-	4	30	21	2	-
Aarhus	9	4	4	1	9	4	62	50	3	3
Viborg	5	-	1	3	4	-	13	6	-	-
North Jutland	10	4	6	3	4	1	34	29	11	5
Unknown	-	1	-	-	-	-	-	-	-	-
DK Sep/Oct 2003	108	80	55	41	54	34	463	368	28	22
DK Sep/Oct 2002	149	150	58	31	61	46	474	308	22	17

Barometer for pathogenic intestinal bacteria, September-October 2003

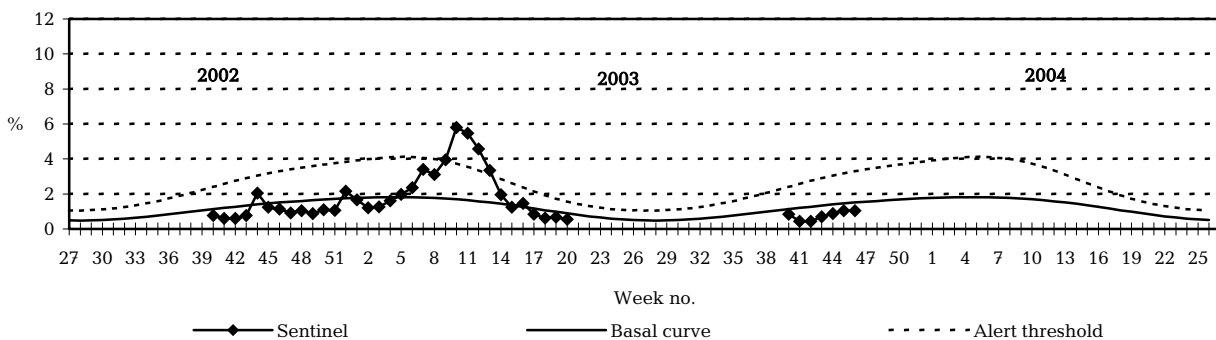


The barometer shows number of disease episodes in the two relevant months compared with the average of 15 two-month periods in the last five years. Further surveillance data may be obtained at www.germ.dk.

(DBMP)

Sentinel surveillance of influenza activity

Weekly percentage of consultations, 2002/2003/2004



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

(Dept. of Epidemiology)