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NATIONAL SURVEILLANCE OF COMMUNICABLE DISEASES

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ZOONOTIC INTESTINAL INFECTIONS 2005

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Zoonoses are diseases transmitted from animals to humans. Zoonotic intestinal infection arises following ingestion of contaminated foods or water, or after contact with infected animals.

General development

Campylobacter jejuni/coli is the most common bacterial zoonosis in Denmark. In 2005, 3671 episodes were registered in the laboratory notification system (68 per 10^5). The number of episodes has remained relatively stable during the past three years, Figure 1.

The incidence of salmonellosis has generally been declining since 1997. However, 2005 saw a 17% increase relative to the previous year, reaching a total of 1775 cases (33 per 10^5). In comparison with 2004, an 18% increase was seen for S. Enteritidis (642 cases), a 22% increase was observed for S. Typhimurium (565 cases), while the remaining serotypes showed an 8% increase (568 cases). As in previous years, S. Enteritidis, which is primarily transmitted from hen's eggs, was the most frequent serotype, Table 1, followed by S. Typhimurium, which is primarily transmitted from pork and poultry. Other salmonella counted 105 different serotypes, presumably derived from various sources. There

Table 1. Number of Salmonella episodes by serotype, 2005

Serotype	Antal	(%)
S. Enteritidis	642	(36)
S. Typhimurium	565	(32)
S. Newport	38	(2)
S. Stanley	35	(2)
S. Virchow	35	(2)
S. Infantis	30	(2)
S. Dublin	24	(1)
S. Hadar	23	(1)
S. Kentucky	22	(1)
S. Agona	18	(1)
Other serotypes	343	(19)
Total	1775	(100)

were 241 notifications of Yersinia enterocolitica (4.4 per 10^5), an increase of 6% relative to 2004.

A total of 158 cases of verocytotoxin-producing E. coli (VTEC) (2.9 per 10^5) were registered, which is a 7% decrease compared with 2004. In 2005, 25 cases (16%) were caused by the O157 group, traditionally considered the most virulent group. There were six notified cases of haemolytic uraemic syndrome (HUS) in 2005; four were verified and one was probably a VTEC infection.

Figure 1. Number of recorded infections caused by Salmonella, Campylobacter and Yersinia enterocolitica, 1980-2005

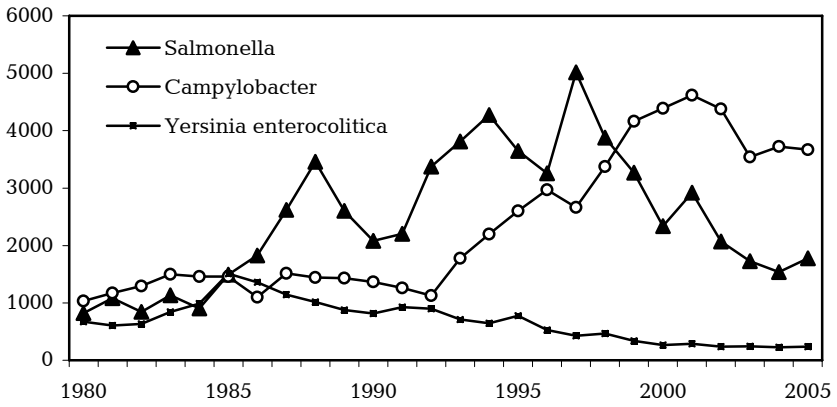

Table 2. Zoonotic intestinal infections 2005, age-specific incidence per 10^5

Age (yrs)	Campylo-bacter	S. Ente-ritidis	S. Typhi-murium	Other salmonella	Yersinia enterocolitica	VTEC
< 1	73	12	26	51	14	11
1-4	112	21	32	18	31	16
5-14	50	14	9	6	7	2
15-24	117	9	12	16	4	2
25-44	86	9	7	9	2	2
45-64	49	15	10	10	3	2
65+	30	10	9	9	2	2
Total	68	12	10	10	4	3

The age-specific incidence, Table 2, mirrors the pattern from preceding years, EPI-NEWS 9/05. No general outbreaks of VTEC or Yersinia enterocolitica were recorded in 2005, but the year saw several salmonella outbreaks caused by S. Typhimurium and one major campylobacter outbreak.

Further information about the number of bacterial intestinal infections is presented on www.germ.dk.

Comments

The number of campylobacter infections remains high. During the past three years these infections have been approximately twice as frequent as salmonella infections. The predominant source of campylobacter is fresh poultry. The orchestrated effort of the poultry industry and the Danish Veterinary and Food Administration to reduce the incidence of campylobacter in poultry since 2001 has probably been instrumental in reducing the number of human infections. This reduction has, however, levelled off over the past few years.

In 2005, a 17% increase replaced recent years' decline in the number of Salmonella infections, which had been obtained owing to a targeted national effort to combat salmonella in the production of eggs, poultry and pork. The number of S. Typhimurium infections rose for the third consecutive year, and the number of S. Enteritidis infections has also risen. The causes for this tendency are currently being investigated in a study coordinated by the Danish Zoonosis Centre. The increase is presumably due to a number of factors, including transmission from infected Danish eggs, poultry and meat products and from imported foods. The number of Yersinia enterocolitica infections, presumably derived mainly from pork, remains low.

Particular attention is paid to VTEC infections because of the HUS risk. 2005 saw no continuation of former years' pronounced increase in the number of recorded infections, which is partly owing to improved diagnostics.

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1 March 2006

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2006 figures are preliminary)

Table 1	Week 8 2006	Cum. 2006 [1]	Cum. 2005 [1]
AIDS	1	7	16
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	3	1
Diphtheria	0	0	0
Foodborne diseases	7	64	50
of these, infected abroad	3	15	9
Gonorrhoea	6	60	121
Haemorrhagic fever	0	0	0
Hepatitis A	0	3	26
of these, infected abroad	0	0	7
Hepatitis B (acute)	0	4	10
Hepatitis B (chronic)	8	38	21
Hepatitis C (acute)	1	1	1
Hepatitis C (chronic)	7	33	49
HIV	4	29	59
Legionella pneumonia	0	12	14
of these, infected abroad	0	2	2
Leprosy	0	0	0
Leptospirosis	0	3	5
Measles	2	3	0
Meningococcal disease	0	6	17
of these, group B	0	4	11
of these, group C	0	0	2
of these, unspec. + other	0	2	4
Mumps	2	6	2
Neuroborreliosis	2	13	12
Ornithosis	0	4	4
Pertussis (children < 2 years)	3	14	51
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	0
Listeria monocytogenes	0	0	0
Streptococcus pneumoniae	1	6	28
Other aethiology	0	1	0
Unknown aethiology	0	3	3
Under registration	6	28	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	2	17	19
of these, infected abroad	2	14	18
Syphilis	1	13	13
Tetanus	0	0	2
Tuberculosis	7	60	71
Typhoid/paratyphoid fever	1	7	4
of these, infected abroad	1	7	4
Typhus exanthematicus	0	0	0
VTEC/HUS	4	19	21
of these, infected abroad	1	6	13

[1] *Cumulative number 2006 and in corresponding period 2005*

Selected laboratory diagnosed infections

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

Table 2	Week 8 2006	Cum. 2006 [2]	Cum. 2005 [2]
Bordetella pertussis			
(all ages)	3	43	145
Gonococci	7	56	72
of these, females	0	10	9
of these, males	7	46	63
Listeria monocytogenes	0	4	4
Mycoplasma pneumoniae			
Resp. specimens [3]	19	153	458
Serum specimens [4]	9	109	298
Streptococci [5]			
Group A streptococci	4	20	25
Group B streptococci	4	18	6
Group C streptococci	1	6	4
Group G streptococci	3	20	25
S. pneumoniae	33	237	236
Table 3	**Week 6 2006**	**Cum. 2006 [2]**	**Cum. 2005 [2]**
Pathogenic int. bacteria [6]			
Campylobacter	34	208	292
S. Enteritidis	10	32	32
S. Typhimurium	3	35	47
Other zoon. salmonella	7	50	42
Yersinia enterocolitica	2	19	30
Verocytotoxin-producing E. coli	1	11	13
Enteropathogenic E. coli	6	27	26
Enterotoxigenic E. coli	3	20	19

[2] *Cumulative number 2006 and in corresponding period 2005*

[3] *Resp. specimens with positive PCR*

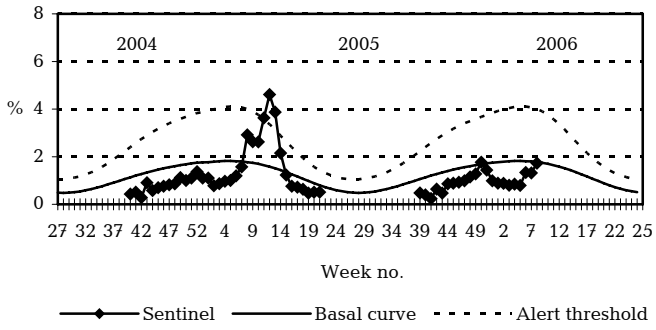
[4] *Serum specimens with pos. complement fixation test*

[5] *Isolated in blood or spinal fluid*

[6] *See also www.germ.dk*

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2004/2005/2006



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

1 March 2006