



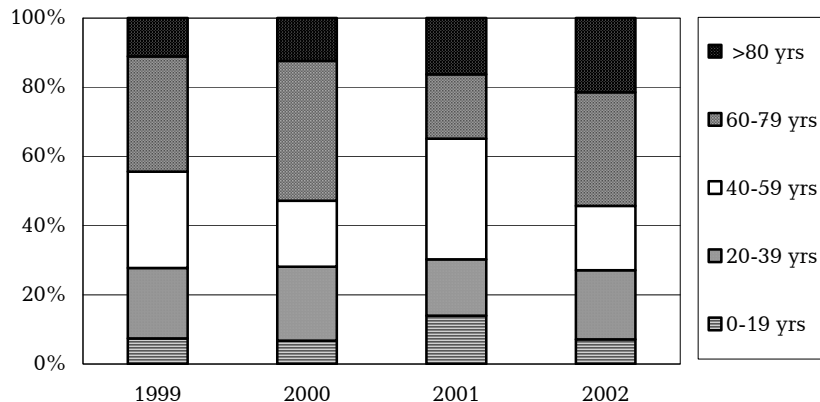
A RISE IN INVASIVE GROUP A STREPTOCOCCAL INFECTIONS No. 37, 2002

Group A streptococcus [COO1](GAS) is a well known cause of tonsillitis, impetigo and erysipelas in addition to invasive infections such as septicaemia, puerperal sepsis, meningitis, fasciitis and myositis. Four cases of fulminant invasive GAS infection occurred during January and February 2002, EPI-NEWS 07/02. In March and April 2002, the Streptococcus Unit received 24 and 23 isolates, respectively, from patients with invasive GAS infection from Danish clinical microbiological departments. This was an 88% rise compared to the first two months of the year. In May, the Streptococcus Unit received nine GAS isolates. 85% of the GAS isolates were from blood and the rest were from CSF or other normally sterile sites. Among the invasive isolates, the proportion of GAS T-type 1 rose from 25% in January to 63% in March and to 56% in May. The proportion of mucoid isolates remained unchanged from January to May 2002, and all the GAS isolates were fully sensitive to penicillin. In June and July, the Streptococcus Unit received 5 and 15 GAS isolates, respectively.

Questionnaire survey

As part of the surveillance of invasive GAS infections in Denmark, the Streptococcus Unit collects information using a questionnaire-format to record relevant information such as patients' symptoms, clinical features, and predisposing factors. The questionnaires are sent to the ward admitting the patient, and are completed by a doctor. The survey is still ongoing. For comparison reasons, provisional data from January to May in 1999-2002 is being presented in this issue. The average response rate in these periods was 96%, [Table 1](#). The low response rate in 2002 is due to the fact that not all questionnaires were returned in time when the data was analysed.

Fig 1. Relative age distribution of patients with invasive group A Streptococcus (GAS) infection, January-May 1999-2002



Mortality

Mortality was high in 2002 (29%) among patients with invasive GAS infection compared to 1999-2001 where it varied between 14 and 22%, [Table 1](#). A higher mortality (27%) was also found among patients with GAS infection caused by T-type 1 in 2002 compared to 1999-2001 where it varied between 9-14%. For T-type 3-13-B3264, mortality was 50% (five out of 10 patients died) in 2002. In 1999-2001, the average mortality was 20% (13-24%). Death caused by T-type 3-13-B3264 occurred in different regions of Denmark from 7 January to 7 April 2002.

Age distribution

In 2002, the proportion of patients >80 years with invasive GAS infection was higher than in the previous three years, [Figure 1](#). This may be part of the explanation for the higher mortality in 2002. For T-type 3-13-B3264 infection, the median age was 48 years (range: 12-89 years) in 2002. For patients with T-type 1 infection, it was 63 years (range: 1-93 years). The median age of all patients with invasive GAS infection was 52, 61, 54 and 62 years in 1999-2002, respectively.

Comments

The number of serious invasive GAS infections increased during the first five months of 2002; at the same time there was a rise in the proportion of GAS T-type 1.

In the past, this specific T-type caused a significantly increased occurrence of invasive GAS infections described in EPI-NEWS 50/88, 03/89 and 25/89. An increase in mortality resulting from this T-type compared with other types has, to-date, never been recorded. Examinations with pulsed field gel electrophoresis (PFGE) show that infections caused by both T-type 1 and T-type 3-13-B3264 in 2002 are due to the presence of several clones rather than few virulent T-type-specific clones. On this basis, there is, so far, no reason for changing the kind of treatment and surveillance of GAS infections.

As from September 2002, the Streptococcus Unit is participating in the EU-project: Strep-EURO, dealing with the surveillance of invasive GAS infection in EU-countries. (K. Ekelund, H. Bossen Konradsen, Dept. of Respiratory Infections, Meningitis and STIs)

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Table 1. Provisional results from the questionnaire survey concerning patients with invasive group A Streptococcus (GAS) infection, January-May 1999-2002

Year	Received invasive GAS isolates ¹		Questionnaire response rate %	Invasive GAS isolates Questionnaire data ²		Mortality among patients with GAS, T-type 1 ²		Mortality among patients with GAS, irrespective of T-type ²	
	T-1/all ³	%		T-1/all ³	%	Deaths/T-1	%	Deaths/all	%
1999	10/50	20	100	9/54	17	1/9	11	8/54	15
2000	7/87	8	100	7/87	8	1/7	14	19/87	22
2001	12/44	27	98	11/43	26	1/11	9	6/43	14
2002	42/81	52	84	33/68	49	9/33	27	20/68	29

¹ In 1999 and 2000, the date recorded was the date of receipt. In 2001 and 2002 it was the date of isolation.

² Data is based on questionnaire responses to the Streptococcus Unit. The date recorded was the date of isolation.

³ T-1/all: Number of GAS isolates T-type 1 / Number of GAS isolates irrespective of T-type.

Patients with positive cultures of pathogenic intestinal bacteria, May-June 2002

County	<u>Campylobacter</u>		<u>Yersinia ent.</u>		<u>S. typhimurium</u>		<u>S. enteritidis</u>		Other zoon. <u>Salmonella-spp</u>	
	May	June	May	June	May	June	May	June	May	June
Copenhagen Municip.	34	62	3	4	-	5	7	8	6	8
Frederiksberg Municip.	3	7	-	-	-	-	-	-	-	-
Copenhagen	35	63	2	1	-	2	3	12	5	1
Frederiksborg	25	32	3	3	-	1	3	3	2	1
Roskilde	12	25	-	-	1	3	2	4	-	1
West Zealand	7	11	1	-	-	3	3	3	2	2
Storstrøm	14	26	-	-	-	-	2	4	3	2
Bornholm	1	3	-	-	-	-	-	2	1	1
Funen	27	52	-	-	3	3	3	3	7	3
South Jutland	18	38	1	-	1	-	3	1	-	3
Ribe	13	34	-	2	2	1	1	4	1	-
Vejle	16	53	-	-	2	2	5	5	2	2
Ringkøbing	13	30	4	-	1	2	1	6	-	1
Aarhus	30	62	2	-	-	1	3	7	4	4
Viborg	17	24	-	-	-	1	-	9	1	2
North Jutland	13	40	1	3	-	8	2	7	7	1
DK May-June 2002	278	562	17	13	10	32	38	78	41	32
DK May-June 2001	292	600	28	24	34	43	93	139	90	96

(Dept. of G-I Infections)

Patients with laboratory-diagnosed RSV or rotavirus infections, April-June 2002

April		May		June	
RSV	Rota	RSV	Rota	RSV	Rota
56	50	16	37	3	21

Reported from the following Clinical Microbiology Departments:

Aalborg Hospital (South), Aarhus Municipal Hospital, Herning Central Hospital,
Hvidovre Hospital, Odense University Hospital, Slagelse Central Hospital,
Viborg Hospital and the Dept. of Virology, Statens Serum Institut.

(Dept. of Epidemiology)