

Unexpected increase in case fatality of invasive group B streptococcal infections in infants in Norway, January-July 2006

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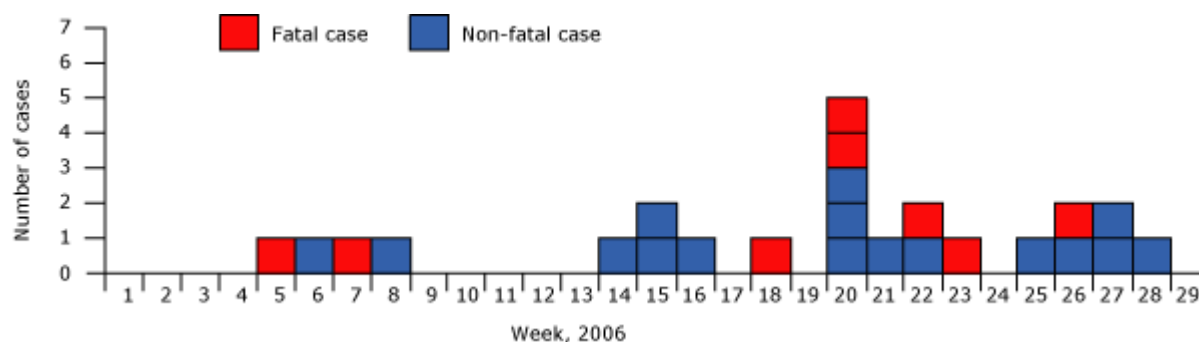
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A marked increase in case fatality has been observed among reported cases of invasive group B streptococcal infections (GBS) in infants younger than 90 days old (thereafter referred to as 'infant') in Norway since the beginning of 2006. Twenty four cases of GBS in infants were reported to the Norwegian communicable disease notification system (MSIS) between 1 January and 21 July, and eight cases (33%) have been fatal [1].

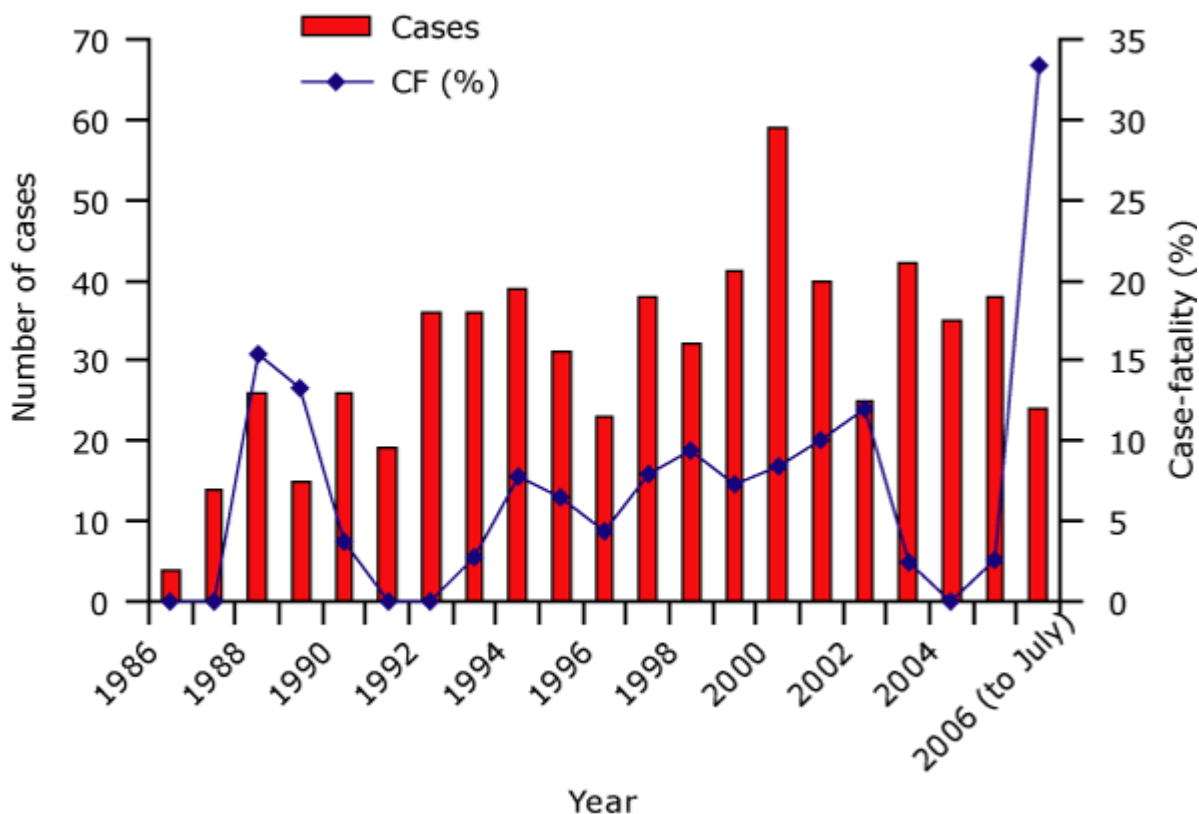
The 24 cases were reported from nine hospitals: thirteen of the cases were in boys (54%). Four of the eight deaths were in girls and four in boys, and occurred in six major hospitals in southern Norway. The distribution of all reported cases of infant GBS infection does not show any difference from previous years in relation to geographical distribution. Clinical data were available for all cases: three cases developed meningitis (13%), fourteen had signs of sepsis (58%), and two cases had both (8%). One case had pneumonia (4%), and other clinical symptom has been reported in four cases (17%). Nineteen cases occurred in the second quarter of 2006, between the 15th and 29th week in 2006 (Figure 1).

Figure 1. Fatal and non-fatal cases of invasive GBS infection in infants under 90 days, by week, Norway, weeks 1-29, 2006 (n=24)



The average incidence rate of invasive GBS infections was 0.7/ 1000 live births (range 0.45-1.0) in 2000-2005, comparable with recent findings in other European countries [2]. The estimated incidence rate in the first six months of 2006 based on the number of cases reported as of 21 July is 0.85/ 1000 live births. The case-fatality (CF), however, is nearly six times higher than the average case fatality (5.8%) reported in the years 2000-2005 (Figure 2). Further investigation is pending to establish what factors may have led to this increase in case fatality. Six of the eight deaths reported in this recent period were associated with early onset disease (0-6 days; CF=46%), and two with late onset disease (7-90 days; CF=18%). Recently, an overall case fatality of 4% has been reported in Germany [3] and 10% in the United Kingdom and Ireland [4].

Figure 2. Cases of invasive GBS infection and case fatality (%) in infants under 90 days, by year, Norway, 1986-2006



The Norwegian Institute of Public Health has contacted all maternity, neonatal, paediatric and hospital microbiology departments in Norway to raise awareness of the disease and to enhance the surveillance of invasive GBS infection which has been a notifiable disease in Norway since 1986. Detailed characterisation of isolates from all cases reported in 2006 referred to the national reference laboratory is ongoing. An epidemiological study will be launched to identify factors that may have contributed to the increase in case fatality. An enquiry was sent via the European Union's Early Warning and Response System (EWRS) on 21 July to find out whether other countries have recently observed a similar increase in case fatality among infants with diagnosed systemic GBS infection. So far we have not received such information.

Guidelines issued in 1998 by the Norwegian Society of Gynaecologists and Obstetrics specify the use of penicillin prophylaxis during delivery for one or more of the following: previous newborn with GBS infection, recurrent GBS urinary tract infection, preterm rupture of the membranes, signs of infection or fever during delivery [5]. Norwegian guidelines for antenatal care from the Directorate for Health and Social Affairs in 2005 do not recommend universal antenatal microbiological screening for GBS carriage [6]. Although the reason for the increased case fatality has not yet been identified, the Norwegian health authorities are considering a revision of current policies.

Any relevant information about recent increase in case fatality in infants with systemic and severe invasive GBS infection in other countries would be appreciated, and should be sent to the corresponding author (details above).

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