



Mortality and neurodevelopmental impairments after invasive group B streptococcal disease in early infancy

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Aim

The aim was to assess long-term mortality and risk of neurodevelopmental impairments (NDI) after infant invasive group B *Streptococcus* disease (iGBS) up to adolescence.

Methods

National health-care databases from Denmark (1997-2017) and the Netherlands (2000-2017)

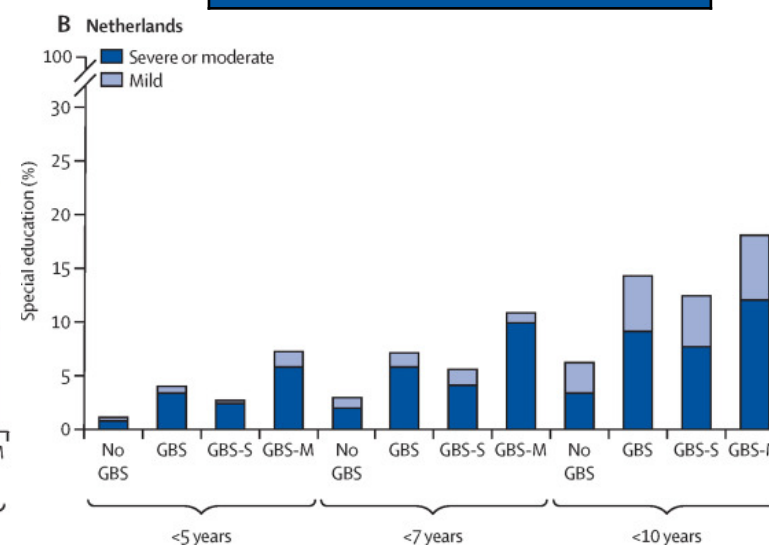
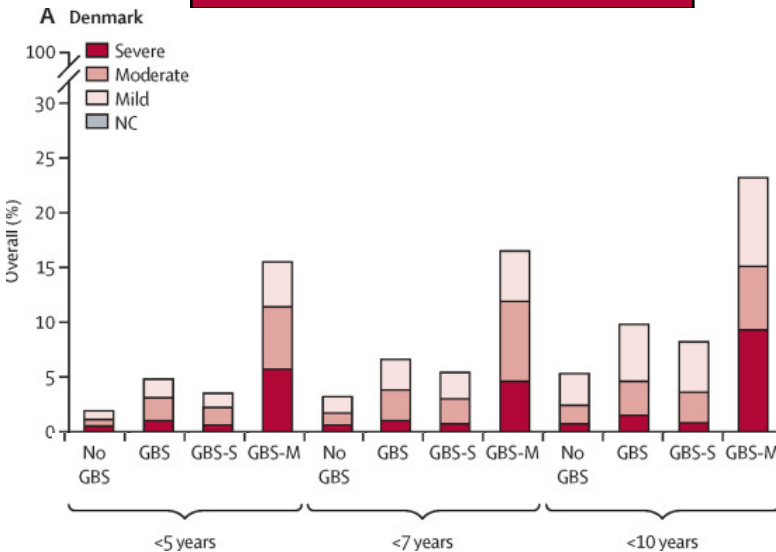
- Cohort: children with a history of iGBS by the age of 89 days.
- Comparison cohort: children without iGBS matched on birth year/month, sex, and gestational age.

Cohort

- Exposed: 2,258
- Unexposed: 22,462

NEURODEVELOPMENTAL IMPAIRMENT

SPECIAL EDUCATIONAL SUPPORT



Mortality

	DK	NL
	Hazard ratio (95% CI)	Hazard ratio (95% CI)
Any invasive GBS		
0 - 89 days	0.97 (0.68-1.37)	4.05 (2.92-5.62)
0 - 5 years	0.96 (0.69-1.34)	3.97 (2.89-5.46)
GBS meningitis		
0 - 89 days	3.45 (1.37-8.66)	7.82 (4.25-14.38)
0 - 5 years	4.08 (1.78-9.35)	6.73 (3.76-12.06)
GBS sepsis		
0 - 89 days	0.83 (0.56-1.24)	3.17 (2.12-4.72)
0 - 5 years	0.79 (0.54-1.16)	3.23 (2.19-4.76)

Neurodevelopmental impairments

		GBS+	GBS-	Relative risk (95% CI)
DK	Any NDI			
	<5 years	4.8%	1.9%	2.39 (1.82-3.14)
	<10 years	9.8%	5.4%	1.77 (1.44-2.18)
	Mod/sev NDI			
NL	Any NDI			
	<5 years	4.0%	1.1%	3.47 (2.06-5.82)
	<10 years	14.3%	6.2%	2.28 (1.64-3.17)
	Mod/sev NDI			
	<5 years	3.4%	0.8%	4.09 (2.27-7.37)
	<10 years	9.1%	3.4%	2.70 (1.75-4.16)

Conclusion

iGBS was associated with increased mortality and a higher risk of NDI in later childhood. This underlines the case for a maternal GBS vaccine, and the need to track and provide care for affected survivors of iGBS disease.