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## Correspondence

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### Association between capsular serotype V and macrolide resistance in group B *Streptococcus*

To the Editor

Group B *Streptococcus* (GBS) expresses a polysaccharide antigen on its surface that is used for serotype identification (serotypes Ia, Ib, II–IX). Serotyping can be performed by use of a rapid latex agglutination test or by polymerase chain reaction (PCR) analysis [1]. The serotype distribution of both invasive and colonizing GBS isolates is continuously evolving and demonstrates not only regional, but also temporal variation. Thus, we read with interest the article by Morozumi *et al.* [2]. The authors investigated the serotypes, the genetic diversity by multilocus sequence typing, and the frequency of macrolide (ML) resistance of GBS isolates responsible for invasive infections in neonates in Japan from 2006 to 2011. Although their data add important information to epidemiological studies on GBS serotype distribution worldwide, we kindly request further exploration of their results on the frequency of serotype V.

Without intrapartum antimicrobial prophylaxis, peripartum transmission to the newborn is estimated to be 50–70% [3], resulting in a high frequency of early-onset GBS sepsis. In previous studies, about 20% of GBS isolates found in colonized Japanese women were designated as serotype V [4, 5]. However,

in the study by Morozumi *et al.* [2], the frequency of serotype V isolates in 150 GBS isolates obtained from invasive infections in neonates was zero.

We recently found a highly significant association between serotype V and ML resistance in GBS-colonized Swiss women [6]. This is in line with previous findings in the Asia, Europe and the United States (Table 1 [6–19]). In the study by Morozumi *et al.* [2], 7/32 (21.9%) serotype Ia and 24/88 (27.3%) serotype III GBS isolates showed ML resistance. We wonder whether the lack of serotype V GBS isolates is an epidemiological variation in Japan, or alternatively, whether it can be attributed to the ability of GBS to switch capsular serotypes [20]. Recent studies using genome analysis confirmed capsular switching in serotype IV GBS isolates designated as clonal complex (CC)17 and its variant (i.e. ST291) [15, 21], even though CC17 GBS isolates are typically associated with serotype III. Such a phenomenon in serotype V would be, to the best of our knowledge, novel.

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### DECLARATION OF INTEREST

None.

Table 1. Association of macrolide resistance and serotype V

Ref.	Study subjects	Study period	Method of serotyping	Total no. of isolates	Serotype V of all isolates, n (%)	Macrolide resistance in serotype V GBS isolates, n (%)
<b>Asia</b>						
Korea [7]	NR	1990–1998	AGGL	185	16/185 (8.6%)	11/16 (68.8%)
Korea [8]	NR	1990–2000	AGGL	308	45/308 (14.6%)	34/45 (75.6%)
Korea [9]	NR	1990–2002	AGGL	446	94/446 (21.1%)	80/94 (85.1%)
Korea [10]	PNW	2004–2007	AGGL	376	104/376 (27.7%)	85/104 (81.7%)
<b>Europe</b>						
France [11]	PNW	NR	AGGL, PCR	340	49/340 (14.4%)	11/49 (22.4%)
	NN			119	6/119 (5%)	6/6 (100%)
	AD			252	37/252 (14.7%)	15/37 (40.5%)
Germany [12]	NN	1993–1997	EEM	193	12/193 (6.2%)	5/12 (41.7%)
	AD			146	19/146 (13%)	5/19 (26.3%)
Italy [13]	NN, AD	2002–2005	ID, PCR	91	14/91 (15.4%)	9/14 (64.3%)
Italy [14]	PNW	2005–2006	AGGL	73	19/73 (26%)	2/19 (10.5%)
Ireland [15]	AD, PNW, NN, INF	2007–2011	AGGL	177	30/177 (16.9%)	13/30 (43.3%)
Poland [16]	AD, NN, INF	1996–2005	PCR–RFLP	114	20/114 (17.5%)	11/20 (55%)
Romania [17]	AD, PNW	2009–2010	AGGL, PCR	148	40/148 (27%)	23/40 (57.5%)
Spain [18]	NN	1992–2009	AGGL	212	14/212 (6.6%)	9/14 (64.3%)
Switzerland [6]	PNW	2009–2010	AGGL, PCR	364	93/364 (25.5%)	24/93 (25.8%)
<b>America</b>						
USA [19]	NN, INF	1997–1999	NR	122	11/122 (9%)	8/11 (72.7%)

AD, Adults; AGGL, agglutination test; EEM, enzymatic extraction method; ID, immunodiffusion, INF, infants; NR, not reported; NN, neonates; PCR, polymerase chain reaction; PNW, pregnant women; RFLP, restriction fragment length polymorphism.

Countries in Europe are presented in alphabetical order. The list is not exhaustive.

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