

Report on Haemophilus and Meningococcus invasive isolates collected in Serbia in a two-year period (2009 – 2010)

Snežana Delić, Davor Čulić

Center for Microbiology, Haemophilus and Meningococcus Reference Laboratory,
Institute for Public Health – Sombor, Serbia

Serbian Haemophilus and Meningococcal Reference Laboratory (HMRL) was established in 2008, by the decree of the Serbian Ministry of Health as part of the EU funded project "Strengthening the Services of Public Health Laboratories in Serbia". It is situated in Sombor, and it works as part of the Center for Microbiology in the Institute of Public Health – Sombor. IPH Sombor is the Public Health Institution for the West Backa District covering the region of about 200000 citizens.

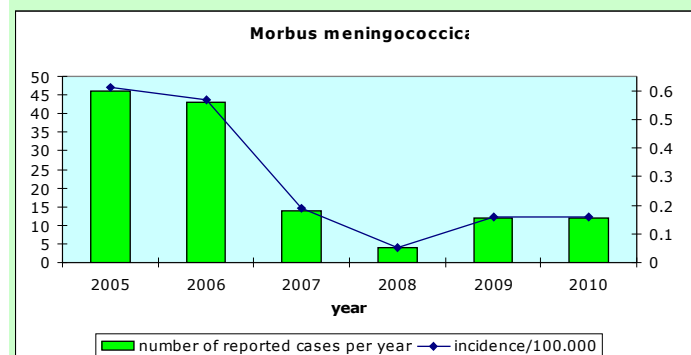
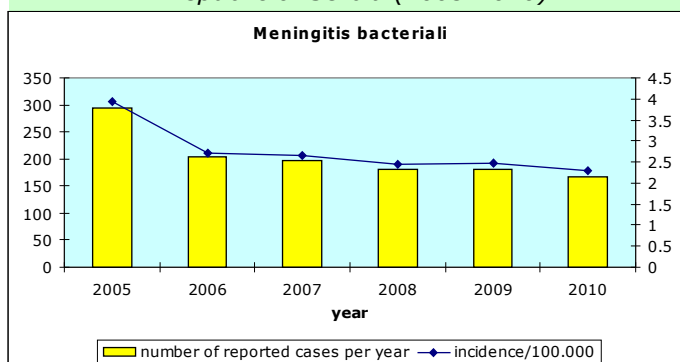
Serbian HMRL provides basic Haemophilus and Meningococcal confirmation and characterization (phenotypic) for isolates sent from laboratories throughout the country and works on creating the national collection of characterized isolates. In the near future, HMRL will start with basic genotypic characterization of sent samples (siaD serogrouping of meningococci).

Vaccination against meningococcal disease is not generally used in Serbia. Only persons traveling to "risk areas" are advised to consider vaccination.

Vaccination against H. influenzae is mandatory in Serbia since 2006.

Discussion:

Annual report on meningitis related infectious diseases in Republic of Serbia (2005-2010)



Source: National Institute for Public Health, Belgrade, 2011.

Determining the precise number of cases of invasive meningococcal diseases (MD) in Serbia is problematic, since mandatory clinical and laboratory reporting system is working with difficulties.

Since its foundation in year 2008, HMRL is collecting data on Meningococcus and Haemophilus serogroup and serotype predominance. We can hope to get a more precise picture of invasive MD regarding the incidence rate in population of about 7 mil. inhabitants in following years.

During the two-year period, Serbian HMRL collected ten N. meningitidis isolates. According to the National Institute of Public Health-Belgrade, no lethal cases for morbus meningococcica were reported. In year 2010 one lethal case was reported due to sepsa acuta meningococcica.

The number of confirmed cases of MD per age group

	Age	Number of isolates	Serogroup B	PCR diagnosis	finetype ²	Total number of cases
2009	0-4	3 ¹	3	3	3	5
	5-9	1	1	1	1	
	65+	1	1	1	1	
2010	0-4	4	4	1	1	5
	20-24	1	1	0	1	

¹ two patients < 1 year

² fine type: serogroup: PorA VR1,VR2:FetA VR.

The ranges of MIC values (mg/L) during two-year period (2009-2010)

Antibiotic	MIC, 2009	MIC, 2010
Penicillin G	100% = 0.094	< 0.016-0.094
Cefotaxime	100% < 0.016	100% < 0.016
Ciprofloxacin	0.002-0.008	100% ≤ 0.002
Rifampicin	0.008-0.012	0.008-0.016
Co-trimoxazole	0.75-2	0.75-1.5

Antibiotic sensitivity was determined with the E-test.

H. influenzae

During the two-year period, HMRL collected two H. influenzae isolates. The number of isolates does not correspond to the expected number of cases, due to difficulties in mandatory clinical and laboratory reporting system, and the system of communication and transportation of isolates and samples between laboratories and reference laboratories in general. Two collected isolates were serotyped as type b and NT, respectively.

Conclusion:

Serbian HMRL will continue to create the national collection of characterized isolates, despite poor funding expected from national medical institutions.

Thanks to:

Reference Laboratories from Hungary (National Center for Epidemiology) and Austria (National Reference Centre for Meningococci) offered major help in our work regarding molecular characterization of collected isolates. We would like to thank Dr. Sigrid Heuberger and Akos Toth for sharing their experience and knowledge in this area.

