

O178

1-hour Oral Session

Public health concerns in STI transmissions

High prevalence of *Neisseria meningitidis* pharyngeal carriage in men who have sex with men in Slovenia, 2012-2014

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**Objectives:** *Neisseria meningitidis* invasive disease is a major public health concern. Pharyngeal carriage is considered to be a prerequisite factor, however, only a minority of carriers develop invasive meningococcal disease (IMD). Several reports from Europe and US have recently indicated an increased incidence of IMD in a population of men who have sex with men (MSM), serogroup C isolates in particular being implicated as the most common cause. However, data on *N. meningitidis* pharyngeal carriage prevalence in MSM population is scarce. Herein, we present the prevalence of meningococcal pharyngeal carriage and serogroup distribution in Slovenian MSM population in the period 2012-2014.

**Methods:** Pharyngeal swab cultures were offered to attendees of two gay clubs (on monthly basis) and one STI anonymous testing point of a Non-Governmental MSM Organization (on weekly basis). Amies-charcoal swabs were inoculated within 2 hours on selective (VCA3, bioMerieux) and non-selective (BBL chocolate, Becton Dickinson) agar plates and incubated for 72 hrs at 35-37°C in 5% CO<sub>2</sub>-enriched atmosphere. Species identification was performed using phenotypic method (API NH, bioMerieux) and MALDI (Microflex LT, Bruker Daltonics). The isolates were serogrouped by slide agglutination using specific monoclonal sera (Becton Dickinson) and confirmed by PCR of capsular and serogroup specific genes. A short anonymous demographic questionnaire was obtained simultaneously.

**Results:** A total of 832 MSM, aged 16-68 years (mean age: 29 years) were investigated over a 26 months study period. The overall prevalence of pharyngeal carriage of *N. meningitidis* was 46.8% (n=389; 95% CI: 43.4%-50.1%). 98.7% (n=384) of isolates were available for serotyping and 51.8% (n=199) among them were serogroupable. Serogroups B, C, Y and W were present in 42.7% (n=164), 6.0% (n=23), 2.6% (n=10) and 0.5% (n=2), respectively. There were no differences in mean age between carriers vs. non-carriers. The carriage prevalence did not show any seasonal fluctuation during the study period.

**Conclusion:** An extraordinary high and stable prevalence (46.8%) of *N. meningitidis* pharyngeal carriage was found in Slovenian MSM population. Serogroup B was the most prevalent serogroup detected. Serogroup C isolates were present in 6.0% of carriers. Further molecular characterization of isolates to determine the genetic lineage and their possible connection to known hypervirulent clones needs to be performed. The exact clinical relevance of our findings is difficult to ascertain, since so far, no evident epidemiological breakthrough of IMD in MSM has been reported in Slovenia. However, extension of vaccination recommendations, that include also the population of MSM, could be warranted in Slovenia.