

## **National Surveillance on Antimicrobial Resistance and Serogroups of *Neisseria meningitidis* (Nme) Isolates Causing Invasive Disease in Argentina: 1998-2008**

A. Corso<sup>1</sup>, P. Gagetti<sup>1</sup>, C. Sorhouet Pereira<sup>2</sup>, A. Efron<sup>2</sup>, M. Rodriguez<sup>1</sup>, D. Faccone<sup>1</sup>, M.A. Moscoloni<sup>2</sup>, M. Regueira<sup>2</sup>

<sup>1</sup>Servicio Antimicrobianos, <sup>2</sup>Servicio Bacteriología Clínica, INEI-ANLIS 'Dr. Carlos G. Malbran', Buenos Aires, Argentina

**Background and aims:** Nme is one of the most important agents of bacterial meningitis and septicemia in children and young adults. During 1998-2008, 1544 Nme causing invasive disease were submitted by 236 hospitals (23 provinces and Bs.As.city) to the Reference Laboratory(INEI) as part of the “National Surveillance Programme for Serogroup and Antimicrobial Resistance”(NSP). Aim: to determine the prevalence of serogroups and antibiotic resistance in Nme isolates.

**Methods:** 1544 strains (patients≤14 y.o.76%) were serogrouped by slide agglutination or PCR. Susceptibility was performed by agar dilution (CLSI) to 1214 isolates. QRDRs of *gyrA/parC/gyrB/parE* genes were sequenced. Reserpine (20mg/L) was used for efflux inhibition assays.

**Results:** Serogroup B increased from 26.4%(1998/99) to 69.6%(2006/07) and decreased to 51%(2008). Serogroup C decreased from 67.7%(1998/99) to 4.5%(2008). Serogroup Y increased from 3.6%(1998/99) to 11.2%(2002/03) and decreased to 4.5%(2008). Serogroup W135 increased from 2.3%(1998/99) to 11.6%(2006/07), achieving to 38.9% in 2008. Nongroupable+X+29E represented 1.5% of the isolates.

No susceptibility to penicillin (NS-PEN) (MIC ≥0.12 mg/L) and ampicillin (MIC ≥0.25 mg/L) was detected in 61.5% and 66.4% of Nme. NS-PEN was: 64.1%/89.7%/23% in serogroups B/C/W135+Y+X+29E isolates, respectively. NS-PEN decreased from 65-74%(1998/2007) to 46%(2008) related to the decreases of B+C serogroups and the increase of W135.

All strains were susceptible (MIC90mg/L) to ceftriaxone(0.002), chloramphenicol(1), tetracycline(0.25) and rifampicin(0.03). 94% were resistant to trimethoprim-sulfamethoxazol(4). Three strains were ciprofloxacin non-susceptible (MIC 0.06-0.12mg/L), showing zones between 6-18mm with nalidixic acid disk and MIC 64mg/L. Two of them presented a mutation in QRDR*gyrA* Asp-95→Asn/His, and the other an efflux mechanism.

**Conclusions:** The changes in the prevalence of serogroups B+C, the worrisome increase of serogroup W135, the high frequency of NS-PEN and the emergence of fluorquinolones resistance, highlight the epidemiological relevance of the NSP.