Review of Meningococcal Laboratory Surveillance

Brazil

Meningococcal Surveillance Effectiveness Workshop
11 - 12 August, 2015

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Meningitis, Pneumonia and Pneumococcal Diseases
Adolfo Lutz Institute, São Paulo, Brazil
Incorporation of Real-Time PCR into Routine Public Health Surveillance of Culture Negative Bacterial Meningitis in São Paulo, Brazil

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Bacterial meningitis by etiology, São Paulo, 2002-2013

Source www.cve.saude.sp.gov.br/htm/cve_meni.htm
Diagnostic criteria for meningococcal disease
Brazil, 2014

Source: COVER-SINAM/DEVEP/SVS/MS
Updated: 12-02-2015

Collection Men strains IAL
398/317 = 80% of cultures of Men reported

- Culture: 25.89% (n=398)
- CIE: 13.40% (n=206)
- Latex: 2.08% (n=32)
- Clinic: 11.71% (n=180)
- Gram Stain: 4.24% (n=65)
- Clinic Epidemiologic: 2.47% (n=38)
- RT PCR: 20.17% (n=310)
- missing data: 20.04% (n=308)

n=1,537 MD cases
Prevalence of serogroups by culture-confirmed of MD by year, Brazil, 2000-2014, all ages

Source: Adolfo Lutz Institute (IAL), São Paulo, Brazil
Meningococcal C conjugate vaccination after 3 years of vaccine introduction into routine immunization in Brazil: A time series analysis

Distribution of all meningococcal disease cases in SINAN and IAL databases. Brazil, 2008 to 2013

Presented at ESPID, Leipzig, May 12-16, 2015
After 2010, the decrease in MD cases is mostly due to the age groups of 3-11m 12 – 23 m (after 2010), and of 2-4 years (after 2011). In 2008, 39.3% of MD occurred in children less than five years of age. This proportion decreased to 24.9% in 2013.

Presented at ESPID, Leipzig, May 12-16, 2015
No. *N. meningitidis* strains from laboratory based-surveillance by geographic region, 2000 – 2013 (No. 9,824)

2000-2013
No. MD cases from MH  n= 41,392
No. MD culture-confirmed  n= 12,516 (30%)
No. meningococcal isolates  n = 9,824 (72.7%)
Antimicrobial Susceptibility of *Neisseria meningitidis*, Brazil, 2006-2013

% of strains

Penicilina (RI)  Ceftriaxona (R)  Cloranfenicol (R)  Rifampicina (R)  Ciproloxacin (R)
PorA types among invasive MenB strains, Brazil 2010
porA typing among MenC, W and Y strains, Brazil 2012
Variation composition of fhbp among MenC, W and Y strains, Brazil 2012

Gorla, et al. Poster presented at: 32nd Annual Meeting of European Society for Paediatric Infectious Diseases (ESPID); May 6-10, 2014; Dublin, Ireland.
Variation composition of nadA among MenC, W and Y strains, Brazil 2012

Unpublished data
Variation composition of NHBA among MenC, W and Y strains, Brazil 2012

Gorla, et al. Poster presented at: 32nd Annual Meeting of European Society for Paediatric Infectious Diseases (ESPID); May 6-10, 2014; Dublin, Ireland.
Distribution of clonal complexes among MenC, W and Y strains, Brazil 2012

. Gorla, et al. Poster presented at: 32nd Annual Meeting of European Society for Paediatric Infectious Diseases (ESPID); May 6-10, 2014; Dublin, Ireland.
2. Unpublished data
Distribution of hipervirulent lineages causing outbreaks or epidemics in Brazil by period of time

A: 4,21P1.10
subgroup I

C: 2a:P1.2 ET37 Complex/
ST 11 Complex

A: 4,21:P1.9
subgroup III

C: 2b:P1.3 Cluster A4/
ST-8 Complex

B: 4,7:P1.19.15; ET 5 Complex/
ST-32 Complex

C: 23:P1.14-6
ST-103 Complex

1960s 1970s 1980s 1990s 2000s

obrigada

gracias

thank you