DESCRIPTIVE RESULTS OF BACTERIOLOGICAL EVALUATION IN COMMUNITY-ACQUIRED BACTERIAL MENINGITIS

RENAN DOMINGUES – renan.domingues@senneliquor.com.br
FERNANDO BRUNALE – fernando.brunale@senneliquor.com.br
GUSTAVO BRUNIERA – gustavo.bruniera@senneliquor.com.br
CARLOS SENNE – carlos.senne@senneliquor.com.br

SENNE LIQUOR DIAGNOSTICO, SÃO PAULO, SP

XXVIII Congresso Brasileiro de NEUROLOGIA
11 a 14 de outubro de 2018
São Paulo | SP

INTRODUCTION

Routine CSF bacteriologic analysis include bacterioscopy, latex antigen detection, and culture.

This study aimed to retrospectively describe the results of bacterial microbiologic evaluation in CSF samples submitted to diagnostic analysis and confirmed to have *Streptococcus pneumoniae*, *Neisseria meningitidis*, or *Haemophylus influenzae* meningitis.

METHODS

We retrospectively evaluated CSF samples submitted to analysis in "Senne Liquor Diagnosis", from 2013 to 2017, in which at least one of the 3 microbiological tests (bacterioscopy, latex agglutination, and/or bacterial culture) were positive for *Streptococcus pneumoniae*, *Neisseria meningitidis*, or *Haemophylus influenzae* .

RESULTS

In the present study we evaluated the "Senne Liquor Diagnóstico" data bank of all CSFs submitted to microbiological analysis. 552 (1.03%) CSF samples had positive bacterial evaluation in at least one of the three methods.

One hundred nineteen (21.55%) out of the positive CSF samples were positive for *Streptococcus pneumoniae*, *Neisseria meningitidis*, or *Haemophylus influenzae*. The results of the three methods are shown in Tables 1,2, and 3.

Twenty two cases were positive only with latex agglutination. The etiologies in these cases were: *S. pneumoniae* − 17 cases; *N. meningitidis* − 3 cases; *H. influenzae* − 1 case. Eleven out of these 22 cases were meningitis treatment control samples.

CONCLUSION

Nearly a fifth of the samples with positive microbiological analysis were were identified as having community-acquired meningitis associated with one of the three most common agents in this situation.

Bacterial culture had a low positivity and it is possible that previous antibiotic use may be one of the possible explanations. Latex agglutionation was the only positive method in 22 cases; however, many of these cases were meningitis treatment control samples.

The association of different diagnostic methods may increase sensitivity. Taking into account the high results discrepancy we conclude that there is still room for new, faster, and more precise methods for etiological diagnosis of bacterial meningitis.

Table 1: Culture results

Culture result	N	%
Negative	56	47.1
S. pneumoniae	39	32.8
N. meningitidis	17	14.3
H. influenzae	7	5.9

Table 2: Bacterioscopy results

Bacterioscopy	N	%
Negative	27	22.7
Positive	92	77.3

Table 3: Latex agglutination results

Latex agglutination	N	%
Negative	5	4.2
S. pneumoniae	84	70.6
N. meningitidis	29	24.4
H. influenzae	1	0.8

REFERENCES:
van Ettekoven CN, van de Beek D, Brower MC. Update on communityácquired bacterial meningitis: guidance and challenges. Clin Microbiol Infect 2017;17:30230-6.
Brouwer MC, van de Beek D. Management of bacterial central nervous system infections. Handb Clin Neurol. 2017;140:349-364.