

#01482

Insights into *S. pneumoniae* Serotype Dynamics and Antimicrobial Resistance in Argentine Adults: 2018-2022 Perspective

03. Bacterial susceptibility & resistance

03a. Resistance surveillance & epidemiology: MRSA, VRE & other Gram-positives

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Background

Invasive Pneumococcal Disease (IPD) impacts adults across diverse age groups, especially those with predisposing factors or underlying health conditions. Objective: To evaluate the circulation of serotypes causing IPD in the adult population of Argentina and its accompanying resistance, during the period 2018-2022.

Methods

From 2018 to 2022, the National Reference Laboratories received 1288 *S. pneumoniae* isolates causing IPD from 153 hospitals of 20 provinces as part of the National Surveillance of serotypes and antimicrobial resistance. Comparative analysis was conducted for two distinct periods: 2018-2019 (pre) and 2021-2022 (post), focusing on age groups 18-64 years (n=144 pre, n=198 post) and ≥65 years (n=102 pre, n=84 post). Serotyping was performed by Quellung method, and MICs by agar dilution (CLSI 2023).

Results

Noteworthy shifts in serotypes were observed; PCV13 serotypes notably decreased from 41.7% to 31.3% in 18-64 years, while remaining relatively stable in the ≥65 age group (39.2% vs 31.0%). Conversely, PPSV23 serotypes showed minimal changes, with rates of 66.7% versus 63.6% in 18-64 years, and 63.7% versus 58.3% in the ≥65 group. Significant differences were noted in serotypes 9V (pre: 4.9%, post: 0.5%) for 18-64 years, and 11D (pre: 0.0%, post: 4.8%) in the ≥65 group (Table 1). Antibiotic susceptibility profiles, depicted in Figure 1, indicated decreased resistance to SXT in the 18-64 age group, as well as to TET/DOX across all age groups during the post period. Multidrug resistance (NS to PEN+TET+ERY/SXT) was observed in 6.4% of cases, predominantly associated with serotypes 19A, 24A, 14, and 24F.

Conclusions

Prevalence of Serotypes 3 and 8 remained consistent across both periods and all age groups. Notably, there was a significant decrease in 9V prevalence in the 18-64 age group, while 11D experienced a notable increase in the ≥65 age group. The National surveillance of IPD in adults plays a critical role in assessing shifts in epidemiology, vaccine impact, and guiding empirical treatment strategies.

Table 1

Table 1

Age group	2018-19		2021-22	
	Serotype	%	Serotype	%
18-64y	3	15,3	8	16,7
	8	10,4	3	15,7
	7F	7,6	9N	5,6
	19A	5,6	15A	5,1
	9V	4,9	14	4,6
	-	-	7F	4,6
≥65y	3	17,7	3	16,7
	8	9,8	8	14,3
	12F	5,9	19A	6,0
	38	4,9	11D	4,8
	14	4,9	23A	4,8
	7F	4,9	-	-

Figure 1

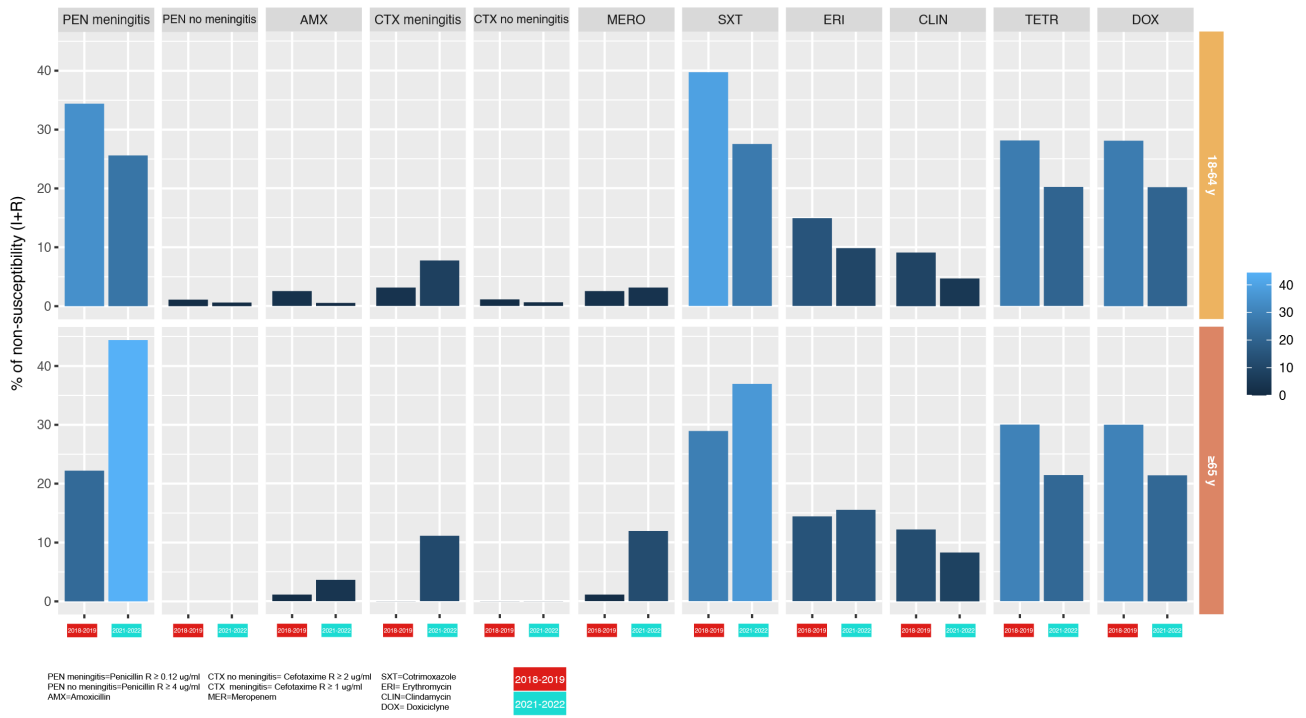


Figure 1. Percentage of non susceptibility (Intermediate + Resistant).