

PERSISTENCE OF *S.pneumoniae* (Spn) IN MIDDLE EAR FLUID IN PEDIATRIC PATIENTS WITH RECURRENT ACUTE OTITIS MEDIA

V. REIJTMAN¹, P. SOMMERFLECK², P. GAGETTI³, S. FOSSATI⁴, C. HERNÁNDEZ¹, P. BERNALDEZ², A. CORSO³, H. LOPARDO¹
¹Servicio de Microbiología and ²Otorrinolaringología, Hospital de Pediatría "Prof. Dr. J. P. Garrahan"; ³Servicio Antimicrobianos and ⁴Servicio de Bacteriología Clínica, INENI ANLIS "Dr. Carlos G. Malbrán"; Buenos Aires, Argentina. vreijtman@anlis.gov.ar

Background

Acute otitis media (AOM) is the most common disease caused by *S. pneumoniae* (Spn) in young children. Complications are more frequent in pneumococcal AOM, they include recurrent AOM and AOM treatment failure.

Objetives

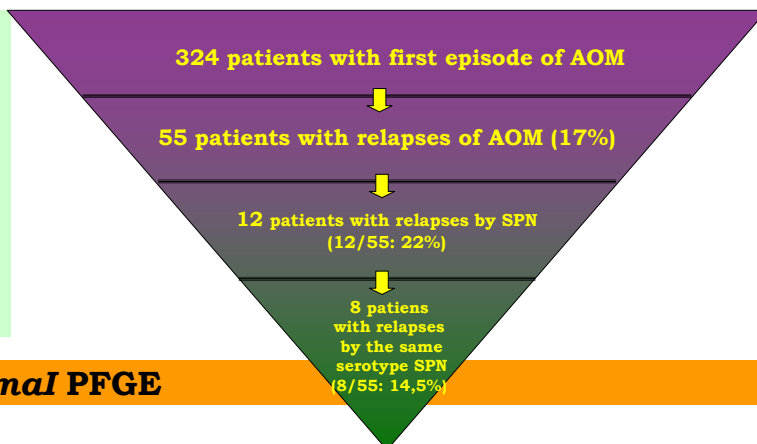
TO EVALUATE THE PERSISTENCE OF *S.pneumoniae* STRAINS IN PATIENTS WITH RELAPSES OF AOM.

Materials and methods

- 324 patients with first episode of AOM were included.
- Diagnostic was performed by otomicroscopy with purulent effusion retained in the middle ear
- Tympanocentesis and culture of middle ear fluid was performed from May 2009 to August 2010 (with follow-up to February 2011).
- Patients were treated with amoxicillin 80mg/k/d during 10 days and evaluated at days: 1, 2, 7 and 30.
- Resolution of AOM was considered if patients were free of signs and symptoms of infectious disease.
- Spn strains were serotyped by Quellung reaction.
- The genetic relatedness was evaluated by *Sma*I PFGE in Spn sharing the same serotype.

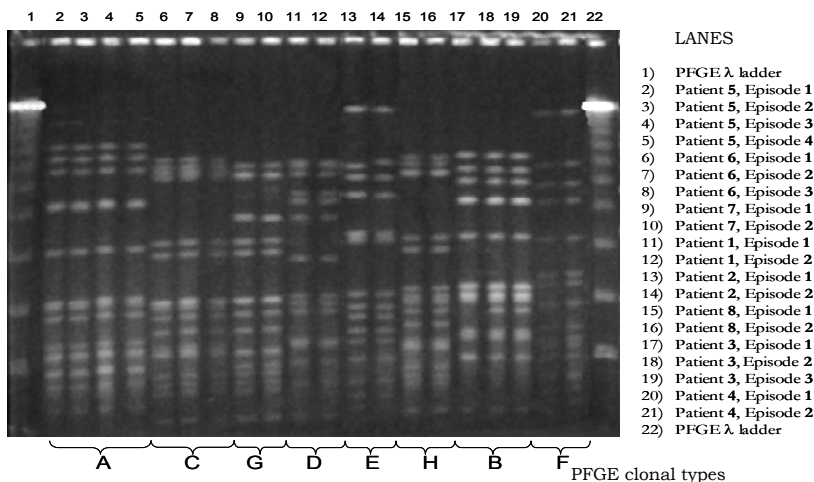
Results and discussion

- All patients resolved AOM between episodes after tympanocentesis and treatment with amoxicillin.
- None of these 8 patients were vaccinated against Spn.
- The median time between episodes was 35 days (interquartile range: 19–43.25.)
- After 2 days 100% of patients became afebrile.
- After 7 days, purulent exudate in middle ear was not observed in 17/20 episodes (85%).



*Sma*I PFGE

Patient	AOM Episode	Date (m/d/y)	SPN serotype	<i>Sma</i> I PFGE	Non susceptibility
1	1	06/04/09	6B	D	-
	2	06/22/09	6B	D	-
2	1	07/14/09	23B	E	PEN
	2	10/16/09	23B	E	PEN
3	1	07/29/09	19A	B	-
	2	09/03/09	19A	B	-
	3	10/02/09	19A	B	-
4	1	08/04/09	19A	F	PEN
	2	09/10/09	19A	F	PEN
5	1	09/11/09	14	A	PEN, ERY, SXT, TET
	2	10/03/09	14	A	PEN, ERY, SXT, TET
	3	11/13/09	14	A	PEN, ERY, SXT, TET
	4	01/29/10	14	A	PEN, ERY, SXT, TET
6	1	09/30/09	14	C	PEN, SXT
	2	10/16/09	14	C	PEN, SXT
	3	11/02/09	14	C	PEN, SXT
7	1	05/27/10	14	G	PEN, SXT
	2	06/30/10	14	G	PEN, SXT
8	1	07/05/10	9V	H	PEN, SXT
	2	08/18/10	9V	H	PEN, SXT



- The same Spn PFGE type was observed in all recurrent episodes of the same patient.
- Different clonal types were found between patients: PFGE A to H

PEN: penicillin (MIC $\geq 0,12$ $\mu\text{g/ml}$); ERY: erythromycin; SXT: trimethoprim-sulfamethoxazole; TET: tetracycline
 All Spn strains were susceptible to amoxicillin; MIC : 0,015 – 1 $\mu\text{g/ml}$.

Conclusions

- THE RESOLUTION OF AOM BETWEEN EPISODES DID NOT DISCARD RELAPSES CAUSED BY SPN STRAINS INCLUDING THOSE CARRYING THE SAME CLONAL TYPE.
- PERSISTENCE WAS NOT ASSOCIATED TO ANY PARTICULAR CLON.