EVALUATION OF AN IMMUNOCHROMATOGRAPHIC TEST FOR THE RAPID DIAGNOSIS OF THE PNEUMOCOCCAL INVASIVE DISEASE IN CULTURE NEGATIVE CASES

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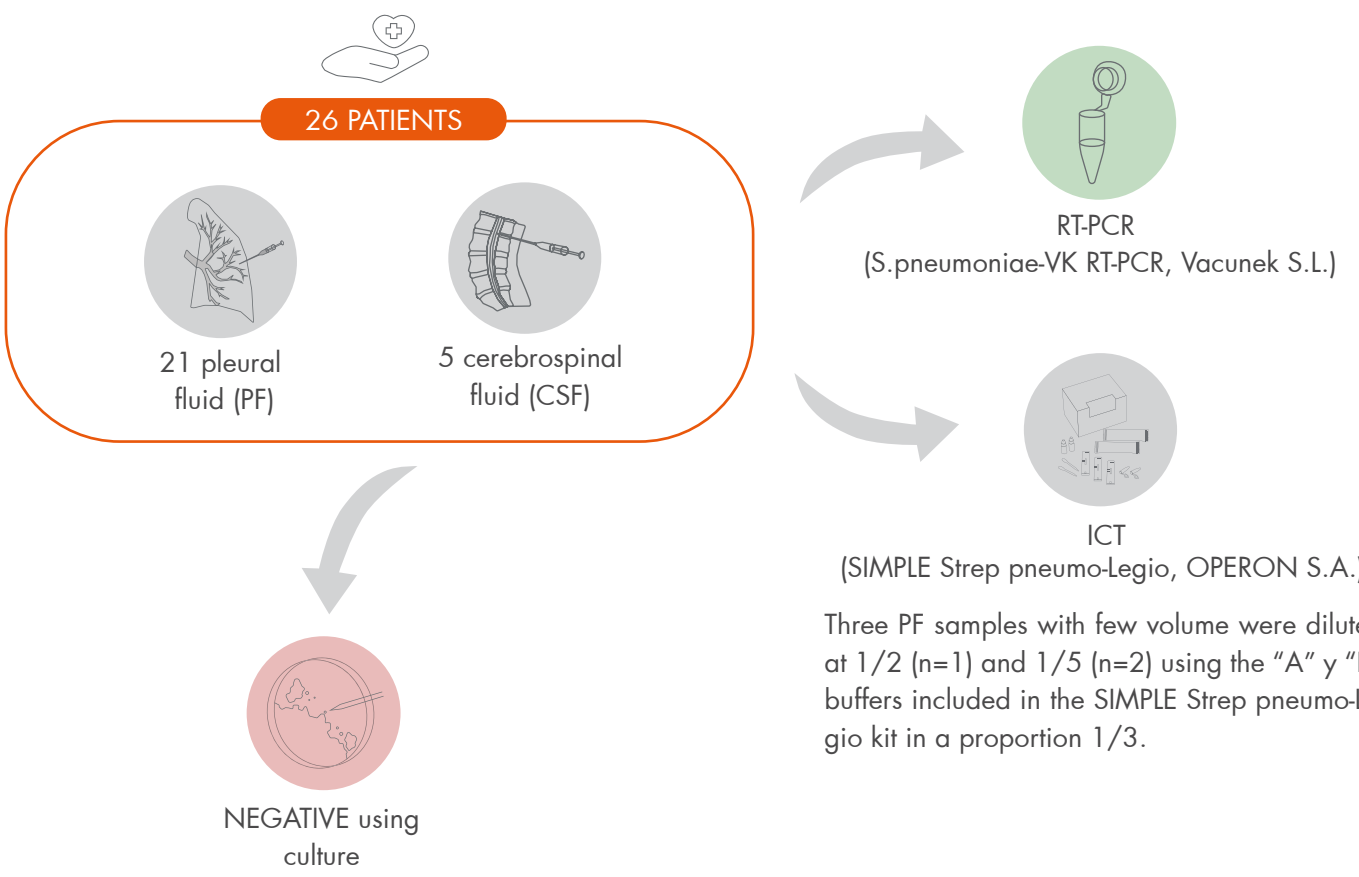
INTRODUCTION AND PURPOSE

Invasive pneumococcal disease is defined as an infection confirmed by the isolation of *Streptococcus pneumoniae* (pneumococcus) from a normally sterile clinical sample (eg, blood, cerebrospinal fluid, pleural fluid, etc.). *S. pneumoniae* is an important and well-known cause of bacteremia in both immunocompetent and immunosuppressed patients. Pneumococcal bacteremia can occur as a result of pneumococcal pneumonia or in its absence. When bacteremia is present, secondary complications, such as arthritis, meningitis, and/or endocarditis, may occur. In general, detection of pneumococci by culture requires some days to be completed and can be limited by the complicated growing of the bacteria, specially in cases with previous antibiotic treatment. This leaves utilization of faster and more sensitive and culture-independent methods, like the detection of pneumococcal antigen using immunochromatographic tests (ICT) or pneumococcal DNA using conventional or quantitative polymerase chain reaction (PCR), as the two main modes of detection.

The aim of this study was to investigate the utility of an immunochromatographic test (SIMPLE Strep pneumo-Legio; OPERON S.A., Zaragoza, Spain) for the rapid diagnosis of the pneumococcal invasive disease (IPD) in culture negative cases, according to the results obtained by a real time PCR (RT-PCR) method.

METHODS



Three PF samples with few volume were diluted at 1/2 (n=1) and 1/5 (n=2) using the "A" y "B" buffers included in the SIMPLE Strep pneumo-Legio kit in a proportion 1/3.

RESULTS

N = 26 (21 PF + 5 CSF) Negative by culture		S.pneumoniae-VK RT-PCR, Vacunek S.L.	
		NEG	POS
ICT (SIMPLE Strep pneumo-Legio, OPERON S.A.)	NEG	5 (3 PF + 2 CSF)	4 (PF)
	POS	0	17 (14 PF + 3 CSF)

*All samples were negative by SIMPLE Strep pneumo-Legio rapid test to *Legionella pneumophila* serogroup 1 soluble antigen.

Sensitivity correlation: 17/(17+4)*100 = 81,0%

Specificity correlation: 5/(5+0)*100 = 100%

CONCLUSIONS

Despite the limited number of samples studied, Strep pneumo-Legio seems to be useful for the rapid diagnosis of IPD in cases of negative culture without showing cross reactivity to the soluble antigen of Lp1.

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