A RAPID TEST FOR DETECTION OF OXA-48 CARBAPENEMASE

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BACKGROUND AND OBJECTIVE

In recent years, there has been an increasing growth in enterobacteria producing carbapenemases, particularly OXA-48, as in our hospital, often associated with outbreaks difficult to control.

Our objective is to evaluate "OXA-48 Card Letitest® (Leti diagnosis)". a new non molecular diagnostic test for the detection of carbapenemase. And compare it with molecular techniques, particularly real-time PCR "Xpert® Carba-R (Cepheid)".

MATERIALS/METHODS

From May to November 2015, in the context of an outbreak in our hospital of "K. pneumoniae CTX-M-15 and OXA 48 like", 86 strains of K. pneumonia were studied with both "Letitest OXA-48 Card" and real-time PCR "Xpert® Carba-R (Cepheid)" and their results were compared. The results were confirmed by the study of clonality at the National Microbiology Center (CNM).

RESULTS

We have studied 86 K. pneumoniae strains. 55 were isolated from rectal samples and 31 from clinical specimens (21 urine samples). From a total of 86 Klebsiella pneumoniae, 13 were extended-spectrum β-lactamase (ESBL) positive (CTX-M 15) and 73 were carbapenemase-producing positive (71 OXA-48 and 2 KPC) The immunochromatographic (IC) test was negative in 13 strains ESBL without carbapenemase. IC were positive in 71 of 73 strains carbapenemase-producing, and were negative in 2 strains. These 2 negative results matches with the 2 KPC carbapenemase strains. The agreement between the results obtained using IC and molecular technique was 100%, with a Cohen’s kappa coefficient of 0.965 (p<0.001). These data were confirmed by the CNM.

CONCLUSION

"Letitest OXA-48 Card" is a fast, efficient and economical technique for the detection of carbapenemase OXA-48 from isolated.
"Letitest OXA-48 Card" is a useful tool for the management of outbreaks hospital caused by carbapenemase-producing K. pneumoniae.