

Comparison of the Vitek Gram-Positive Susceptibility (GPS) 105 Card, the Disk Diffusion Test and *mecA* Analysis for Detecting Oxacillin Resistance in Clinical Isolates of Coagulase Negative Staphylococci.

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Coagulase-Negative Staphylococci (CoNS) are a common cause of infection, particularly in patients with prosthetic devices. The accurate detection of oxacillin (OXA) resistance in these isolates is of great importance in the clinical laboratory as a guide to therapy. Resistance to OXA is based on carriage of *mecA* gene which may not be expressed with the same efficiency in CoNS as in *S. aureus*. The objective of the present study was to compare the susceptibility to OXA obtained by Vitek GPS105 card and disk diffusion test, with the detection of *mecA* gene by PCR (gold standard). One hundred consecutive CoNS were isolated at Hospital Alvarez in Buenos Aires, from April to October 1997: *S. epidermidis* (49), *S. saprophyticus* (14), *S. hominis* (13), *S. haemolyticus* (7), *S. simulans* (6), *S. auricularis* (4), *S. capitis* (3), *S. cohnii* (2) and *S. warneri* (2). The results are shown in the table:

PCR <i>mecA</i> detection	Nº of isolates	Nº OF ISOLATES			
		Vitek GPS 105 card (ug/ml)		Disk diffusion (mm)	
		≤ 0.25	≥ 0.5	≥ 18	≤ 17
POSITIVE	54	0	54	1	53
NEGATIVE	46	30	16	31	15

All 54 *mecA* positive isolates were classified as OXA resistant by GPS105 card and only one strain was misclassified as susceptible by disk diffusion criteria. Among the 46 *mecA* negative isolates, 16 and 15 were categorized as resistant with GPS105 card or disk diffusion, respectively. Thirteen of them correspond to *S. saprophyticus* and 2 to *S. cohnii*, which were OXA resistant by both phenotypic criteria. The sensitivities of GPS105 card and disk diffusion were 100 and 98.1% and the specificities were 65.2 and 67.4%, respectively. The low specificity was due to the inclusion of a high number of *S. saprophyticus* in the sample analyzed. The specificities, without the inclusion of this species, would increase to 93.7 and 96.8%, respectively (testing of OXA against *S. saprophyticus* is not recommended by NCCLS). Our results confirm previous reports, where the new OXA breakpoints were found to be less accurate when they were applied to some species of CoNS such as *S. saprophyticus*, *S. cohnii*, *S. warnerii*, *S. lugdunensis* and *S. xylosus*. Further studies are necessary to re-evaluate the current OXA breakpoints for CoNS other than *S. epidermidis*.