early CAMRSA Bf formation and there was an increase of EPS production. Recent reports showed a relationship between VA MIC and failure among patients with MRSA bacteremia treated with VA, atributing this failure to > 1.5 mg/l MIC.

Conclusion: Our experiment might explain controversies about effectiveness of AM treatment due to Bf formation rather than presence of planktonic CA-MRSA in the patients. It is necessary to use or add other AM with activity in early stage of Bf different of VA or TMPSMX in patients with suspected or established CA-MRSA infections.

doi:10.1016/j.ijid.2010.02.399

74.020

Disc diffusion methods versus PCR for mecA gene in detection of Methicillin Resistant *Staphylococcus aureus*

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Background: Accuracy and promptness in the detection of methicillin resistance are of key importance in ensuring the correct antibiotic treatment in infected patients and control of methicillin resistant *staphylococcus aureus* (MRSA) in the hospital environment. The aim of our study was to evaluate the efficacy of disc diffusion tests to characterize MRSA and compare it with oxacillin agar screening and detection of mecA gene by PCR.

Methods: Methicillin resistance of *staphylococcal* isolates derived from patients of a university hospital in Iran was assessed using the CLSI disk-diffusion method with a cefoxitin 30-!g disk in comparison with an oxacillin 1-!g disk. Oxacillin screen agar plates with 4% NaCl and 6 microg/ml of oxacillin were inoculated and interpreted as per standard guidelines. PCR-based detection of mecA gene was considered as the reference standard.

Results: Out of 200 *Staphylococcus* isolates 195 (97.5%) were methicillin resistant by oxacilline disc diffusion test, 151 (75%) were resistant by cefoxitin disc diffusion test, 153 (76.5%) were detected as MRSA by oxacillin agar test and 126 (63%) were mec A gene positive by PCR. The cefoxitin showed 96% sensitivity and 61% specificity with a positive predictive value of 80% and a negative predictive value of 92%. However, the sensitivity and the specificity for oxacillin agar test were 89% and 36%, and for oxacillin were 98% and 14%, respectively.

Conclusion: Overall, the MRSA rate is so high in our hospital with any test in this research. Comparing different phenotypic methods for MRSA screening in routine microbiology laboratory, Cefoxitin disc and Oxacillin agar screening have better sensitivity and specificity in comparison with Oxacillin disc. However, according to the different results of these tests and PCR, it seems that phenotypic expression of methicillin resistance may alter depending on the growth conditions for *S. aureus*, such as temperature or osmolarity of the medium and some other factors

besides mecA gene that may affect the accuracy of the methods used to detect methicillin resistance.

doi:10.1016/j.ijid.2010.02.400

Diagnostics (Poster Presentation)

75.001

Molecular diagnosis of *Helicobacter pylori* infection and risk factor of the presence of *cagA* and *vacA* genes

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Background: Several *H. pylori* genes that are related to the risk of disease have been identified. The cytotoxin-associated gene (*cagA*) is a marker for a genomic pathogenicity (cag) island of about 40 kbp whose presence is associated with a more severe clinical outcome. A cytotoxin that injures epithelial cells is encoded by vacuolating cytotoxin A gene (*vacA)*. *vacA* is present in all *H. pylori* strains and contains at least two variable parts. The aim of our study was to evaluate the efficiency of using PCR technique as a powerful tool besides being an easy and low cost method for diagnosis of *H pylori* infection through molecular detection of *cagA* and *vacAs1* genes in gastric tissue biopsies obtained from patients diagnosed as *H. pylori* positive.

Methods: Fifty cases were enrolled in our study that underwent endoscopy. The following investigations were done:

- Paraffin-embedded tissue sections were stained (H&E) to grade the severity of gastritis to detect *H. pylori* as a gold standard.
- CLO-Rapid urease test was carried out for all gastric biopsies.
- PCR analysis for detection of *cagA* and *vacAs1* genes in gastric tissue biopsies obtained from patients diagnosed as *H. pylori* positive.

Results: Biochemical results: For positive histology cases, 36/41 (87.8%) were positive, while for negative histology cases, 8/9 (88.9%) were negative by rapid urease test. PCR results: For positive histology cases, 40/41 (97.6%) were positive by the PCR test for *vacAs1 gene*. On the other hand, out of 9 that were negative by PCR test for *vacAs1 gene* 9 (100%) were negative by histology. Out of 41 positive cases by histology, only 40 (97.6%) were also positive by the PCR test for *cagA gene*. On the other hand, out of 9 that were negative by PCR test for *cagA gene* 9 (100%) were negative by histology.

Strong positive and statistically significant correlation between the expressions of these two genes *(vacAs1* and *cagA)* in patient of *H. pylori*. ($P < .000$)

Conclusion: We can conclude that:

- Rapid urease test is good screening test when multiple biopsies are used.