

**EV0538**

**ePoster Viewing**

**Diagnostic bacteriology – non-culture based, including molecular and MALDI-TOF**

**Helicobacter pylori: PCR vs. Culture - a case study at CHU Mustapha Bacha Algiers, Algeria**

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**Background:** The establishment for the first time of the diagnosis of *H. pylori* in the Microbiology Laboratory of the University Hospital (CHU) Mustapha Bacha of Algiers, Algeria has enhanced the routine diagnosis, allow to understand the prevalence of *H. pylori* infection and its resistance to clarithromycin molecule used in its treatment in Algeria. In this work, we aimed at comparing the results of both phenotypic and molecular diagnosis methods and assess the performance of each technique.

**Material/methods:** A total of 162 pairs of gastric biopsies were collected from upper-endoscopy procedures in University Hospital Gastroenterology Department. One gastric biopsy was used for culture and the other was used to practice a multiplex PCR using Scorpions primers for the detection of *H. pylori* and the gene mutations in the 23S RNA conferring resistance to clarithromycin (A2143G, A2142G, and A2142C).

**Results:** The detection of *H. pylori* were of 28% by culture and by 52.5% by PCR. PCR allowed the detection of *H.pylori* in 51% of the culture cases when negative or contaminated this being mainly due to the bacterium cultivation and transport difficulties, limiting the performance and sensitivity of the culture. However, we recorded three cases of false negative PCR, probably due to PCR inhibition reasons. Only 17 cases of CMI-Study by E-test (38%) could be performed using 5 cases (29.4%) of clarithromycin resistance; however multiplex PCR showed 29 resistance cases (34%) among which the primary clarithromycin resistance accounted for 31%, the A2143G mutation was predominant at 83% and 09 cases of double population (susceptible and resistant) were found.

**Conclusions:** In a Medical Laboratory, the diagnosis of *H. pylori* by PCR is interesting to consider because it provides fast and highly accurate results, compared the culture approach, and this despite its specificity. Multiplex PCR also has the advantage of giving results of the detection of *H. pylori* and its resistance to clarithromycin.