Evaluation of the “CLARI-RES ASSAY” by real-time for the detection of clarithromycin-resistant Helicobacter pylori in the upper gastrointestinal biopsies

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Valutazione del kit “CLARI-RES ASSAY” in real-time, per la ricerca di Helicobacter pylori claritromicina resistente su biopie gastriche

SUMMARY
Introduction. Clarithromycin is recognized as the main drug of first-line therapy for eradication of Helicobacter pylori (Hp) (Maastricht III consensus 2006) and in vitro evaluation of its effectiveness is considered crucial. It was noted that some point mutations in domain V of 23S rRNA Hp are associated with resistance to macrolides and then is given the possibility of a molecular diagnostic capable, inter alia, to overcome some of the problems associated with classical microbiological techniques. They have been recently commercialized kit employing molecular methods able to identify some of these mutations, which are considered most often. Having assessed by sequencing, the relative frequency of mutations detected in local office, we wanted to compare the potential benefits of molecular diagnostics in comparison to cytological testing in normal use, and assess the frequency of strains with mutations linked to resistance to clarithromycin in population local.

Methods. 59 patients presenting disorders of the upper gastrointestinal tract were subjected to gastroscopy, biopsies were taken on which it runs parallel with the direct cytology and molecular method. Cytology was performed according to traditional method. The extraction of nucleic acids was performed with QIAamp DNA Mini Kit (Qiagen). The kit “H. pylori ClariRes assay” (Ingenetix GmbH.Vienna) was used for the detection of mutations A2142C, A2142/3G by RealTime on LightCycler 2.0 instrument (Roche).

Results. 91.5% of results are concordant with both methods (54/59). 41 are positive for the presence of Hp and 18 are negative. No sample test are positive direct and negative for nucleic acids, vice versa in 5 samples are found DNA of Hp while the direct examination was negative. Of the 41 patients positive for Molecular good 19 (46.3%) appear to be carriers of Hp with mutations linked to resistance Clarithromycin.

Conclusions. The molecular method is used and proved sensitive and reliable in clinical practice and to solve technical problems in the crop and in the test of sensitivity on the one hand and the difficulties of interpretation of cytology on the other. The response times are noticeably shorter. Highlighted the frequency of strains resistant to clarithromycin makes it even more this kind to establish a proper antibiotic therapy.


Recentemente sono stati commercializzati dei kit utilizzanti tecniche molecolari in grado di identificare alcune di queste mutazioni, ritenute più frequenti.

Abbiamo quindi valutato il tipo di mutazioni presenti in sede locale per mezzo della tecnica di sequenziamento, per confrontare quanti parte di queste mutazioni fossero evidenziabili con il kit commerciale “ClariRes assay” e, contemporaneamente, verificare la frequenza di ceppi con mutazioni legate a resistenza a Claritromicina nella popolazione afferente al nostro campione.

In corso di EGDS sono stati eseguiti esami citologici e DNA di esame di biopsie per ricerca di Hp in sede locale per mezzo della tecnica di sequenziamento, per confrontare quanti parte di queste mutazioni fossero evidenziabili con il kit commerciale “ClariRes assay” e, contemporaneamente, verificare la frequenza di ceppi con mutazioni legate a resistenza a Claritromicina nella popolazione afferente al nostro campione.

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