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**Title:** Evaluation of antibiotic-resistance patterns of *Helicobacter pylori* isolates from endoscopy samples of Afzalipour hospital in Kerman-2009 and study of mutations in genes related to metronidazole & clarithromycin resistance in them by PCR-RFLP

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**Abstract:** Background and objectives: *Helicobacter pylori* is a gram negative, microaerophilic and helical bacilli that colonizes half of the world population's stomachs. Based on serological studies, the prevalence of this infection in Iranian adults is up to 80%. Clinical outcomes of this infection include: gastritis, peptic ulcer and gastric adenocarcinoma that are common in Iran. Antibiotics resistance patterns of *Helicobacter pylori* are different geographically; therefore a need for local studies is felt. Mutation in *rdxA* gene is associated with metronidazole resistance and point mutations are associated with clarithromycin resistance in *H. pylori*.

**Materials and methods:** From April-to-December 2009, 63 *Helicobacter pylori* strains isolated from 191 patient referred to endoscopy unit of Afzalipour hospital in Kerman. Patients demographic features including: (age, gender, refer cause, drug use history) were recorded before the sampling. We have used modified disk diffusion test to evaluate antibiotics resistance of *H. pylori*. To detect deletion in *rdxA* gene a simple PCR method was used but point mutations in 23s rRNA gene was detected by PCR-RFLP. The statistical were performed by spss16. To evaluate the significance pearson chi-square test was used.

**Results:** The patterns of antibiotics resistance were as below: metronidazole 55.5%, clarithromycin 30.1%, tetracycline 3.1%, amoxicillin 26.9%, ciprofloxacin 7.9% and no resistance to furazolidone was detected. 53.9% of the isolates were resistance to one antibiotic, 28.5% to were resistant to two antibiotics, 6.3% were resistant to three antibiotics and there was no resistance to more than three antibiotics at the same time. From 35 metronidazole resistance isolates only 8 isolates (22.9%) had deletion in *rdxA* gene. All of the 20 clarithromycin resistance isolates had at least one of the three common point mutations in 23s rRNA gene.

**Conclusion:** Antibiotics resistance of *H. pylori* is a serious concern but outburst of MDR isolates is even more important as the whole treatments can go waste. According to *rdxA* deletion rates in this study it seems that some other nitroreductases are involved in metronidazole activation or there are other metronidazole mechanisms involved. The clarithromycin resistance of *H. pylori* was associated with point mutations in 23s rRNA in all of our local isolates.

**Keywords:** *Helicobacter pylori*, antibiotics resistance, MDR isolates, *rdxA* gene, 23s rRNA gene

**Presentation:** Poster