Abstract: Background and Objectives
The production of urease by the Helicobacter pylori is an important virulence factor for its colonization in the lamina propria. Uncontrolled consumption of proton pump inhibitors (PPIs) causes a decrease in the production of gastric acid so that overgrowth of non-resident pathogenic bacteria can promote. The aim of this study was investigation of the colonization of non Helicobacter urease positive bacteria in stomach of patients with PPI drugs usage.

Materials and Methods
Duodenal biopsy specimens were harvested from 38 PPIs administering patients under routine gastroscopy. The samples then were immediately homogenized by tissue-grinder and cultured in aerobic, microaerophilic, and anaerobic conditions. The identification of samples was on the basis of standard bacteriological methods. All of suspected unidentified bacteria were subjected under 16s rDNA sequencing.

Results
Out of 38 biopsy samples, 51 bacterial isolates were identified. Among 38 duodenal biopsy specimens, 82% were shown positive growth for bacteria. Polymicrobial infections were shown in 50% of the samples. Most of frequently isolated bacteria in relation to the polymicrobial infections were associated with Acinetobacter spp. (17.64%). Other urease producing bacteria among the isolates were included Enterococcus spp. (50% E. faecalis and 50% E. faecium); Staphylococcus epidermidis, Klebsiella pneumoniae, Staphylococcus aureus, Enterobacter spp. (E. hormaechei and E. intermedium), and Proteus vulgaris in the frequency of (15.68%), (9.8%), (7.8%), (5.8%), (3.9%) and (1.9%), respectively.

Conclusion
The results of this study indicated that 64.7 % of the bacterial isolates are considered as bacteria with urease activity. Most of these bacteria shown a significant counts > 103 cfu/ml of the treated biopsy suspensions, which emphasis their colonization in this niche. Our findings initially showed a direct association between PPIs usage and bacterial overgrowth in duodenum tissue. The urease encoding bacteria probably could help them to tolerate the pH of duodenum in these patients.

Keywords: urease, non-Helicobacter, duodenal biopsy, PPI

Presentation: Poster