TITLE: DIAGNOSIS OF *Helicobacter pylori* USING INVASIVE APPROACHES

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ABSTRACT:
Helicobacter pylori (*H. pylori*) is a bacteria gram negative, ubiquitous, spiral and flagellated. The microorganism is the etiological agent of several gastric diseases in humans, among them gastritis, peptic ulcer, atrofia and gastric cancer. The infection is a public health problem and is estimated that about 50% worldwild is infected by bacterium. The prevalence rate of infection is highest in emerging countries, ranging from 20% to 90% depending on geographic region. In Brazil, a variation ranges from 50 to 80%, similar to found in Africa, where the prevalence is 70-90%. Early diagnosis is essential for a better prognosis and therapeutic success of the patient. The tests for identification of the bacteria can be classified as invasive and non-invasive and have different indexes of sensitivity and specificity. The present study aimed to compare the molecular and histopathological techniques used in the diagnosis of *H. pylori* infection. The project was approved by the ethics committee, under the number of 2,519,032 (CAAE: 95637418.3.3001.0031). A total of 76 gastric samples from dyspeptic patients were colleted . The samples were submitted to molecular diagnosis through the PCR technique, using the ribosomal gene (16S rRNA) and the histopathological examination of the gastric mucosa. The bacteria was identified in 55/76 (72.3%) of the patients, 26/55 (47.2%) by molecular diagnosis, 7/55 (12.7%) by histopathological examination and 26/55 (47. 2%) in both. Although the histopathological test is considered the gold standard, the success rate in the detection of *H. pylori* by the molecular method was 1,6 times higher compared to the histopathological. PCR is not used in routine diagnosis of *H. pylori*, a fact the has been changing over the years, because of achieved results with standard of 100% sensibility and specificity. The results indicate a high rate of *H.pylori* infection in the region studied and could lead to further analysis as to virulence factors, as well as epidemiological intervention to control the means of transmission and clinical prevention measures.

Keywords: Bacterial; Molecular detection; Histopathological.

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