

عنوان مقاله:

Analysis of KRAS gene mutation associated with Helicobacter pylori infection in patients with gastric cancer

محل انتشار:

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خلاصه مقاله:

Objective(s): KRAS proto-oncogene mutation can be considered a diagnostic factor for treating various malignancies. Helicobacter pylori infection, a risk factor for stomach cancer, may cause DNA damage and genetic changes. The aim of the current study was to assess the association of gastric cancer and KRAS mutation, demographic factors, and H. pylori infection. Materials and Methods: DNA was extracted from a total of 140 FFPE gastric cancer tissue samples. detection of KRAS mutation (codons 12 and 13) in tumors was performed by PCR amplification, followed by gel electrophoresis and DNA sequencing. PCR diagnosed any H. pylori infection. Results: KRAS mutation was detected in 6 of the 140 (4.2%) gastric cancer tissue samples. 18 samples (12.8%), all of which were male ($P < 0.05$), tested positive for H. pylori infection. KRAS mutations were present in 22.2% (4/18) of the samples with H. pylori infection ($P < 0.05$). The mean age of patients was 62.25 ± 12.61 years (range: 30–93 years). A male predominance (2.5 to 1) was reported in the gastric cancers, and at diagnosis, women were significantly younger than men ($P = 0.004$). No association was observed between age or gender and KRAS mutation. Neither was one found between age and H. pylori infection. Tumors from H. pylori+ subjects were significantly more likely to have KRAS mutation than tumors from H. pylori- subjects ($OR = 17.1$). Conclusion: The data suggest that H. pylori infection when compared with the absence of H. pylori infection, is associated with a higher prevalence of KRAS mutation in gastric cancer.

کلمات کلیدی:

Helicobacter pylori, Gastric cancer, KRAS, Mutation, Sequencing

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