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Activity: Abstracts

Antioxidant and anti-inflammatory properties of a grape seed extracts against *Helicobacter pylori* infection

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Abstract:

Background: *Helicobacter pylori* (Hp) could be implicated in the pathogenesis of gastritis, peptic ulcer disease, gastric carcinoma, and gastric lymphoma. There is increasing evidence that Hp infection induce oxidative stress in host cells and an inflammatory process that conditions an immunological response both local and systemic. These events may represent an important mechanism leading to epithelial injury in Hp infection. **Objective:** The present study was aimed to evaluate the effect of a grape seed extract (GSE) and its fractions (F1 and F2) on the Hp-induced oxidative stress and inflammatory response in epithelial gastric AGS human cells. **Methods:** AGS cells were pre-treated with GSE and fractions (2mg/mL) for 2h before infection with seven Hp strains. Intracellular reactive oxygen species (ROS) levels were detected using a redox-sensitive fluorescent probe and pro-inflammatory IL-8 cytokine production was measured by ELISA assay. **Results:** Infection of AGS cells with all Hp strains resulted in a significantly ($p < 0.05$) increase in intracellular ROS generation and IL-8 cytokine production respect to the uninfected controls. However, when AGS cells were pre-treated with GSE and fractions, it was achieved an inhibition percentage of intracellular ROS production in a range from 29.1% to 86.7%. Similarly, the cells pre-treatments with GSE and fractions also reached a significant reduction of IL-8 secretion ranging from 37.2% to 89.6%. **Conclusions:** These results suggest that GSE and fractions in the present study may prevent and/or modulate the oxidative stress and inflammatory response induced by Hp infection. **Acknowledgments:** Ministry of Science, Innovation and Universities, Government of Spain, project AGL2017-89566-R.

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