

Modifying effect of chronic atrophic gastritis on radiation risk for noncardia gastric cancer^{*1} according to histological type^{*2}

Gastric cancer risk is known to increase with radiation exposure, but few studies have investigated gastric cancer risk from radiation exposure while taking into consideration *Helicobacter pylori* (hereinafter, referred to as *H. pylori*) and chronic atrophic gastritis^{*3}.

Eligible study participants were atomic bomb survivors in Hiroshima and Nagasaki who participated in the [Adult Health Study \(AHS\)](#) during the period 1970–2001. Taking into account risk factors such as *H. pylori* infection and smoking among 297 cases who developed gastric cancer and 873 controls who did not develop gastric cancer, RERF closely examined the impact on gastric cancer risk from radiation depending on whether or not chronic atrophic gastritis was present.

The study showed that radiation exposure was associated with an increased risk of diffuse-type gastric cancer without chronic atrophic gastritis. On the other hand, in diffuse-type gastric cancer with chronic atrophic gastritis, as well as intestinal-type gastric cancer there was no increase in risk due to radiation exposure.

^{*1} “Noncardia gastric cancer” refers to common gastric cancers occurring in most parts of the stomach except for the entrance to the stomach (known as the cardia), and accounts for more than 90% of gastric cancers in the Japanese population.

^{*2} “Histological type” refers to a medically detailed classification of cancer. Among them, some are known as “diffuse-type” and “intestinal-type,” with the former said to be a more aggressive type of malignancy than the latter.

^{*3} “Chronic atrophic gastritis” refers to a condition in which inflammation of the gastric mucosa continues for a long period of time due to infection with *H. pylori*. The functions of the mucous membrane of the stomach such as secretion of gastric acid are weakened.

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RERF’s objective with this brief outline is to succinctly explain our research for the lay public. Much of the technical content of the original paper has been omitted. For further details about the study, please refer to the full paper published by the journal.