



Title	Effectiveness of endoscopic screening for gastric cancer: The Japan Public Health Center-based Prospective Study
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# 論文内容の要旨

## Synopsis of Thesis

氏 名 Name	成井 信博
論文題名 Title	Effectiveness of endoscopic screening for gastric cancer: The Japan Public Health Center-based Prospective Study (胃がんに対する胃内視鏡検査の有効性：多目的コホート研究 (JPHC) )
<p>論文内容の要旨</p> <p>〔目 的 (Purpose)〕</p> <p>Upper gastrointestinal endoscopy for gastric cancer screening has been implemented in Japan. However, its effectiveness on gastric cancer prevention has not been fully studied. We aimed to investigate the effectiveness of endoscopic screening to reduce mortality from gastric cancer.</p> <p>〔方法 (Methods)〕</p> <p>In a large prospective population-based cohort study including 80,272 participants, we compared the risk of mortality and incidence of gastric cancer among participants who underwent endoscopic or radiographic screening compared with those who did not undergo any screening by using multivariable Cox proportional hazards models.</p> <p>〔成績 (Results)〕</p> <p>During the 1,023,364 person-years observation period (median; 13.0 years), 18,888 participants died. Of these, 783 (4.2%) died of gastric cancer and 5,372 (28.4%) died of other cancers. During the observation period, 12,131 participants were diagnosed with any cancer, of which 1,977 participants (16.3%) had gastric cancer.</p> <p>Compared with the unscreened group, the proportion of men and participants aged 55 to 70 years were higher in the radiographic screening group and the endoscopic screening groups. The endoscopic screening group had a higher percentage of participants with normal BMI (18.5-25). The participants who underwent radiographic screening or endoscopic screening were less likely to be current smokers and had a higher intake of vegetables and fruits than the unscreened group. The endoscopic screening group also had a greater history of diabetes, gastric ulcers, and gastric polyps and cholesterol medications use. There were no apparent differences in salt intake or physical activity.</p> <p>In the multivariable model, compared with that of the unscreened group, the mortality from gastric cancer was significantly lower, 37% [Hazard Ratio (HR) = 0.63 (95% CI: 0.54-0.73)] and 61% [HR = 0.39 (95% CI: 0.30-0.51)] in the radiographic and the endoscopic screening groups, respectively. All-site cancer mortality and all-cause mortality were also 17% [HR = 0.83 (95% CI: 0.78-0.88)] and 21% [HR = 0.79 (95% CI: 0.76-0.82)] lower in the radiographic screening group and 14% [HR = 0.86 (95% CI: 0.79-0.94)] and 18% [HR = 0.82 (95% CI: 0.79-0.86)] lower in the endoscopic screening group. In both screening groups, the reduction in the risk of gastric cancer-specific mortality was sufficiently greater than the reduction in the risk of all-cause mortality or all-cancer mortality.</p> <p>Gastric cancer at diagnosis included 10.6% carcinoma in situ and 54.1% localized cancer. The proportion of carcinoma in situ and localized carcinoma was higher in the radiographic and endoscopic screening groups than was that in the unscreened group. In the multivariable model, compared with that of the unscreened group, the incidence of gastric cancer was 6% [HR = 0.94 (95% CI: 0.85-1.04)] and 12% [HR = 0.88 (95% CI: 0.77-1.01)] lower, exhibiting a marginal significance, in the radiographic and endoscopic screening groups, respectively. To examine the impact of screening on cancer incidence in detail, we divided cancers into carcinoma in situ and advanced cancers. Compared with that in the unscreened group, the incidence of advanced gastric cancer was significantly reduced by 12% [HR = 0.88 (95% CI: 0.79-0.98)] and 22% [HR = 0.78 (95% CI: 0.67-0.90)] in the radiographic and endoscopic groups, respectively. In contrast, there was a significant increase in the incidence of carcinoma in situ of the stomach in the radiological screening group [HR = 2.04 (95% CI: 1.43-2.91)] and in the endoscopic screening group [HR = 2.31 (95% CI: 1.54-3.47)].</p> <p>〔総 括 (Conclusion)〕</p> <p>In conclusion, endoscopic screening reduced the incidence of advanced gastric cancer and mortality from gastric cancer in the Japanese population.</p>	

## 論文審査の結果の要旨及び担当者

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## 論文審査の結果の要旨

日本では対策型検診の胃がん検診として、胃X線検査と胃内視鏡検査が実施されている。対策型検診は、集団全体の死亡率減少を目的として実施する検診を指し、公共的な予防対策として行われる。しかし、有効性評価に基づく胃がん検診ガイドライン2014年度版（国立がんセンター）での、胃内視鏡検査に対する研究の提言として、「国内・国外での研究が進みつつあるが十全ではないことから、死亡率減少効果について引き続き評価を行うべきである」とされている。本研究は、日本の10保健所管内在住の45～74歳の住民80,272人を対象として、1995年から2015年まで追跡した調査結果にもとづいて、胃X線検査及び胃内視鏡検査と胃がん死亡・罹患との関連を調べた。その結果、胃X線検査又は胃内視鏡検査を受けた人は、未受診の人と比較して、胃がんによる死亡リスクがそれぞれ37%、61%減少していた。本研究結果は、国内での胃内視鏡検査の有効性を示唆しており、今後の対策型検診の実施方法を検討する上で意義がある。以上より、本論文は学位に値するものと認める。