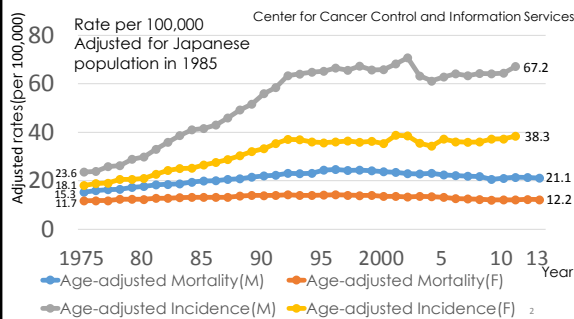


INVESTIGATION INTO BACKGROUND OF THE COLORECTAL CANCERS (CRCs) DETECTED BY FIT SCREENING WITH THE TWO-DAY METHOD IN IBARAKI PREFECTURE, JAPAN.

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Trends in Colorectal Cancer Age-Adjusted Incidence & Mortality by year and gender, 1975-2013



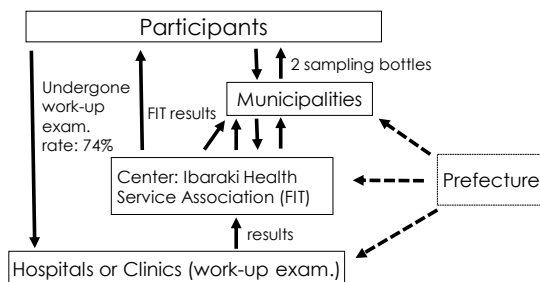
Introduction

- In Japan, CRC screening has been a national policy since 1992, for citizens over 40 years old.
- The two days sampling method of fecal immunochemical blood test (FIT) has been widely accepted for CRC annual screening program.
 - In Ibaraki prefecture, population-based screening program from 2000 to 2013, (FIT) participants over 40 years of age were screened with 2 samples of stool measured by the OC-SENSOR (Eiken, Japan) with the cutoff value of 100ng/mL (20µg Hb/g stool).
- The government has set up a 40% participation rate as a goal to reach.
 - The participation rate until 2005 was only 10%.
 - The current participation rate has been reached to 35%.

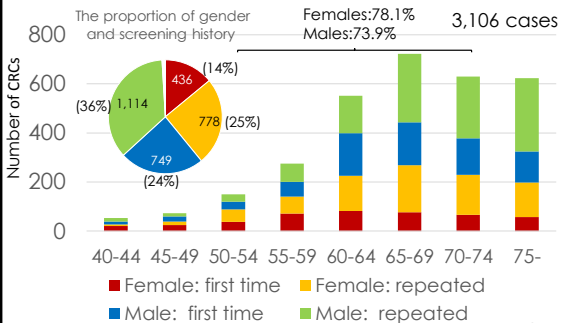
AIMS and METHOD

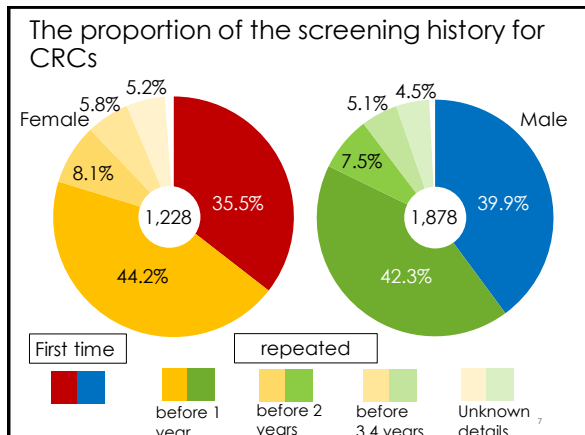
- The purpose of this study is to investigate into background the CRCs detected by FIT screening with the two-day method from 2000 to 2013.
- The analyze was performed based on gender, age, screening history, locations, and Dukes classifications.
- The data were assessed based on the χ^2 test.
- The difference between two groups was judged statistically significant when p-value was less than 0.05.

Population-based CRC Screening System in Ibaraki Prefecture



Numbers of CRC by age and gender (2000-2013)





The proportion of the CRC's Dukes classifications comparing between the first and the repeated group depending on the locations (females)

| | Rectum | | | Sigmoid | | | D. + T. | | | A. + C. | | |
|--------|--------|-------|---------|---------|-------|---------|---------|-------|---------|---------|-------|---------|
| | First | Re | p-value | First | Re | p-value | First | Re | p-value | First | Re | p-value |
| D A(m) | 41.3 | 52.8 | 0.0468 | 52.8 | 59.4 | | 42.3 | 44.4 | | 20.0 | 29.2 | |
| U A | 33.9 | 28.2 | | 23.3 | 22.1 | | 26.9 | 28.3 | | 21.2 | 33.1 | 0.0043 |
| k B | 7.4 | 7.7 | | 12.6 | 8.8 | | 7.7 | 9.1 | | 21.2 | 13.6 | |
| e C | 14.0 | 8.2 | | 8.2 | 8.8 | | 21.2 | 16.2 | | 30.6 | 19.9 | 0.0041 |
| s D | 3.3 | 3.1 | | 2.5 | 0.9 | | 1.9 | 2.0 | | 7.1 | 4.2 | |
| ? | 0.0 | 0.0 | | 0.6 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| | 100.0 | 100.0 | | 100.0 | 100.0 | | 100.0 | 100.0 | | 100.0 | 100.0 | |

D.: descending colon T.: Transverse A.: Ascending C.: Cecum

The proportion of the CRC's Dukes classifications, comparing between the first and the repeated group depending on the locations (males)

| | Rectum | | | Sigmoid | | | D. + T. | | | A. + C. | | |
|--------|--------|-------|---------|---------|-------|---------|---------|-------|---------|---------|-------|---------|
| | First | Re | p-value | First | Re | p-value | First | Re | p-value | First | Re | p-value |
| D A(m) | 33.2 | 54.8 | 0.0000 | 52.7 | 61.4 | 0.0320 | 54.1 | 49.2 | | 39.6 | 43.3 | |
| U A | 32.3 | 25.0 | | 24.4 | 25.9 | | 18.9 | 27.8 | | 28.1 | 28.8 | |
| k B | 17.0 | 7.5 | 0.0005 | 11.8 | 5.3 | 0.0039 | 14.4 | 10.2 | | 12.5 | 15.0 | |
| e C | 13.1 | 10.5 | | 8.6 | 6.2 | | 10.8 | 11.2 | | 17.7 | 9.4 | 0.0350 |
| s D | 3.5 | 1.5 | | 2.5 | 1.2 | | 1.8 | 1.6 | | 1.0 | 3.4 | |
| ? | 0.9 | 0.6 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 1.0 | 0.0 | |
| | 100.0 | 100.0 | | 100.0 | 100.0 | | 100.0 | 100.0 | | 100.0 | 100.0 | |

D.: descending colon T.: Transverse A.: Ascending C.: Cecum

The proportion of the CRC's location, comparing between the first and the repeated group depending on the Dukes classifications (females)

| | Rectum | | | Sigmoid | | | D. + T. | | | A. + C. | | | % |
|--------|--------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|-----|
| | First | Re | p-value | First | Re | p-value | First | Re | p-value | First | Re | p-value | |
| D A(m) | 27.6 | 29.0 | | 46.3 | 36.3 | 0.0354 | 12.2 | 12.4 | | 9.4 | 19.4 | 0.0027 | 100 |
| U A | 36.6 | 25.5 | 0.0354 | 33.0 | 22.2 | 0.0341 | 12.5 | 13.0 | | 16.1 | 36.1 | 0.0002 | 100 |
| k B | 17.0 | 19.5 | | 37.7 | 24.7 | | 7.5 | 11.7 | | 34.0 | 41.6 | | 100 |
| e C | 25.4 | 16.2 | | 19.4 | 19.2 | | 16.4 | 16.2 | | 38.8 | 47.5 | | 100 |
| s D | 26.7 | 30.0 | | 26.7 | 10.0 | | 6.7 | 10.0 | | 40.0 | 50.0 | | 100 |
| ? | 0.0 | 0.0 | | 12.5 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 100 |
| All | 27.8 | 25.1 | | 36.5 | 27.9 | 0.0019 | 4.4 | 12.7 | | 19.5 | 30.3 | 0.0000 | 100 |

D.: descending colon T.: Transverse A.: Ascending C.: Cecum

The proportion of the CRC's location, comparing between the first and the repeated group depending on the Dukes classifications (males)

| | Rectum | | | Sigmoid | | | D. + T. | | | A. + C. | | | % |
|--------|--------|------|---------|---------|------|---------|---------|------|---------|---------|------|---------|-----|
| | First | Re | p-value | First | Re | p-value | First | Re | p-value | First | Re | p-value | |
| D A(m) | 22.6 | 30.4 | 0.0101 | 43.6 | 32.9 | 0.0011 | 17.8 | 15.4 | | 11.3 | 16.9 | 0.0211 | 100 |
| U A | 37.0 | 28.8 | | 34.0 | 28.8 | | 10.5 | 18.1 | 0.0214 | 13.5 | 23.3 | 0.0071 | 100 |
| k B | 38.6 | 26.0 | | 32.7 | 17.7 | 0.0158 | 15.8 | 19.8 | | 11.9 | 36.5 | 0.0001 | 100 |
| e C | 36.1 | 35.4 | | 28.9 | 20.2 | | 14.5 | 21.2 | | 20.5 | 22.2 | | 100 |
| s D | 44.4 | 25.0 | | 38.9 | 20.0 | | 11.1 | 15.0 | | 5.6 | 40.0 | 0.0126 | 100 |
| ? | 20.0 | 16.7 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 10.0 | 0.0 | | 100 |
| All | 30.6 | 29.8 | | 37.2 | 28.8 | 0.0001 | 14.8 | 16.8 | | 12.8 | 20.9 | 0.0000 | 100 |

D.: descending colon T.: Transverse A.: Ascending C.: Cecum

CONCLUSIONS

- With the two days FIT sampling screening, detected CRCs proportion for Dukes classifications or locations were dissimilar between the first time and the repeated participants.
- According to this study, repeated FIT screening was needed to detect CRCs in the ascending colon.



Thank you

Fukushima

Ibaraki, Mito

Tokyo

1000km

Ibaraki prefecture
Population: 3.0 million, Area: 6,000km²
capital: Mito