Colorectal Cancer: Why Prevent It?

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Outline

• Epidemiology
• Evidence for screening
• Impact of screening programs
Global Public Health Issue

- 1.36 M new cases
  - 55% in developed regions
- 694,000 deaths

GLOBOCAN 2012 (IARC)
Colorectal Cancer Incidence: World (both sexes, per 100,000)

GLOBOCAN 2012 (IARC)
Age-Standardized CRC Incidence and Mortality Rates (per 100,000)

Evidence for Screening
Adenoma-Carcinoma Sequence
CRC Screening Tests

• Past 20 yrs - evidence to support CRC screening:
  ➢ Fecal occult blood test ✓ ✓ ✓
  ➢ Sigmoidoscopy ✓ ✓ ✓
  ➢ Colonoscopy ✓ ✓
Fecal Occult Blood Test (gFOBT)

- In randomized controlled trials, biennial gFOBT reduces CRC mortality 15%

Moving from gFOBT to FIT
Colonoscopy vs. FIT (N=53,302)

<table>
<thead>
<tr>
<th></th>
<th>Col’y</th>
<th>FIT</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptake (%)</td>
<td>25</td>
<td>34</td>
<td>0.63*</td>
</tr>
<tr>
<td>Adv Adenoma (%)</td>
<td>1.9</td>
<td>0.9</td>
<td>2.30*</td>
</tr>
<tr>
<td>CRC (%)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.99</td>
</tr>
</tbody>
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Characteristics of FIT

• Single test
• Higher participation rate
• Quantitative/automated
• Select cut off to define FIT+
• Higher positivity rate
• Better neoplasia detection
UK FS Trial: CRC Mortality

Colonoscopy
Quality Indicators: Adenoma Detection Rate

- 314,872 colonoscopies
- 136 GI endoscopists
- 712 new/missed cancers
- ADR quintiles (median: 17–39%)

Adenoma Detection Rate and Risk of Fatal CRC

C  Risk of Fatal CRC

<table>
<thead>
<tr>
<th>Quintile 1</th>
<th>Quintile 2</th>
<th>Quintile 3</th>
<th>Quintile 4</th>
<th>Quintile 5</th>
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<tbody>
<tr>
<td>HR=1.00</td>
<td>HR=1.02</td>
<td>HR=0.80</td>
<td>HR=0.51</td>
<td>HR=0.38</td>
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<tr>
<td>(reference)</td>
<td>(95% CI, 0.65–1.61)</td>
<td>(95% CI, 0.55–1.17)</td>
<td>(95% CI, 0.33–0.81)</td>
<td>(95% CI, 0.22–0.65)</td>
</tr>
<tr>
<td>No. of Deaths</td>
<td>43</td>
<td>35</td>
<td>29</td>
<td>28</td>
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Impact of Screening Programs
FIT Cohort Study: Veneto

FIT in Veneto: CRC Mortality Rate
Summary

• Global public health issue
• Evidence for screening
• Impact of screening programs
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