Should colonoscopy quality be integrated into surveillance recommendations?

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Conflict of interests

Nothing to declare
Introduction

- Current surveillance recommendations after screening colonoscopy are based on characteristics of removed adenomas
- BUT do not take into account performance of colonoscopists
Introduction

Adenoma Detection Rate (ADR) is correlated with interval colorectal cancer after colonoscopy

• Kaminski MF, et al., NEJM 2010
• Corley DA, et al., NEJM 2014
CRC risk
ADR <11% vs. ADR ≥20%
HR = 12.50
95% CI 1.51–103.43

CRC death
ADR ≥34% vs. ADR <19%
HR = 0.38
95% CI 1.51–103.43
Introduction

- ADR is therefore established as an important quality indicator for screening colonoscopy, and its reporting is recommended in current guidelines.

Performance measures for lower gastrointestinal endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) Quality Improvement Initiative
Kamisnki MF, et al., Endoscopy 2017
Introduction

Quality

Colorectal cancer

Surveillance

Colorectal cancer
Introduction

Should colonoscopy quality be integrated into surveillance recommendations?
Literature

• One multicenter study from Poland and Austria
• Wieszczy P, Waldmann E et al., Gastroenterology 2021
• Screening colonoscopy → CRC, death, adm. end of FU
• Testing cohort (PL):
  • 173,288 individuals examined by 262 colonoscopists
  • Median follow-up 10 years
• Validation cohort (AT):
  • 137,169 individuals examined by 242 colonoscopists
  • Median follow-up 3.1 years
Adenoma Risk Groups

• No adenoma
• Low-risk group
  • 1-2 tubular adenomas <10 mm in size without high-grade dysplasia
• High-risk group
  • 3 or more adenomas
  • with villous component
  • >=10 mm in size
  • with high-grade dysplasia
Adenoma Detection Rate

• Proportion of exams with at least one adenoma removed
• At least 100 exams/year (30 in validation cohort)

• Additional exclusions for analysis
  • CRC detected at screening
  • Incomplete colonoscopy
  • Inadequate bowel preparation
10-year risk of CRC after screening colonoscopy

No Adenomas

HR* = 2.10
95% CI 1.52-2.91

ADR>=20%
ADR<20%

Low-Risk Adenomas

HR* = 2.35
95% CI 1.31-4.21

High-Risk Adenomas

HR* = 2.69
95% CI 1.62-4.47

*ref. ADR>=20%

Wieszczy P, Waldmann E, Gastroenterology 2021
10-year risk of CRC after screening colonoscopy

**No Adenomas**
- ADR >= 20%
  - 0.15% (0.11-0.20)
- ADR < 20%
  - 0.30% (0.27-0.34)

**Low-Risk Adenomas**
- ADR >= 20%
  - 0.22% (0.14-0.34)
- ADR < 20%
  - 0.55% (0.40-0.75)

**High-Risk Adenomas**
- ADR >= 20%
  - 0.43% (0.27-0.69)
- ADR < 20%
  - 1.14% (0.87-1.48)

(95% CI)

Wieszczy P, Waldmann E, Gastroenterology 2021
10-year risk of CRC after screening colonoscopy

Low-risk adenoma & ADR<20% ≈ High-risk adenoma & ADR>=20%

- Low-Risk Adenomas
  - ADR>=20%: 0.55% (0.40-0.75)
  - ADR<20%: 0.43% (0.27-0.69)

- High-Risk Adenomas
  - ADR>=20%: 1.14% (0.87-1.48)
  - ADR<20%: 0.15% (0.11-0.20)

(95% CI)

Wieszczy P, Waldmann E, Gastroenterology 2021
Sensitivity analyzes

The observed trends were consistent with

- different ADR cutoffs (25%)
- different follow-up times after screening (scheduled surveillance)
- validation cohort from Austria
Conclusions
Conclusions

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<tr>
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<th>Low-risk adenoma</th>
<th>High-risk adenoma</th>
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<tr>
<td><strong>High ADR</strong></td>
<td>Low CRC risk</td>
<td>Medium CRC risk</td>
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ADR: Average Daily Risk
CRC: Colorectal Cancer
Conclusions

Higher interval cancer rates for low-risk group & low ADR:
• adenomas are missed by low-performing endoscopists
• wrong classification to the adenoma risk group
• risk of future neoplasia is not correctly classified

Lower interval cancer rates for high-risk group & high ADR:
• patients undergoing colonoscopy by high-performing endoscopists undergo more surveillance colonoscopies
Summary

• Data on whether colonoscopy quality may be integrated into surveillance recommendations is limited
• Surveillance recommendations based on colonoscopy findings would help to identify those who would benefit most from surveillance
• More studies are needed to confirm the rationale for surveillance recommendations after screening colonoscopy