The Future of CRC Screening

Introduction from the UEG President:
Michael Manns

Adenoma detection rate according to age: Colonoscopy screening should start at 45 years old
David Karsenti

Diagnostic yield of ‘artificial intelligence’ assisted endocytoscopy for colorectal polyps
Yuichi Mori

Questions and Close:
Michael Manns
Adenoma detection rate according to age: Colonoscopy screening should start at 45 years old

David Karsenti
Clinique de Bercy, Charenton le Pont, France

G. Tharsis, F. Venezia, P. Cattan, G. Tordjman, A. Gillet, K. Nahon-Uzan, J. Samana, M. Cavicchi
Colorectal cancer background

- Colorectal cancer (CRC) is one of the most frequent cancers worldwide:
  - The second-leading cause of cancer related-death
  - Estimated that 228,000 Europeans die from CRC each year

- Mortality reduction by colonoscopy screening is well established:
  - Precancerous lesions detection
  - Early-stage cancer detection

<table>
<thead>
<tr>
<th>Country</th>
<th>CRC Incidence (per 100,000 population)</th>
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<td>Slovakia</td>
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Torre LA, et al. CA Cancer J Clin 2015

Colorectal cancer background

- Colonoscopy screening programmes for CRC enrol patients >50 years old

BUT...

- We routinely detect polyps or cancer in people under 50

- Incidence of CRC in under 50s is on the increase

2. Rex DK, Am J Gastroenterol 2009
3. Siegel RL, CA Cancer J Clin 2017
Aims

To determine the adenoma and neoplasia detection rates, according to age, in a large population of patients explored in common practice.

To determine if 50 years old is the best age to start screening.
Method

Prospective monocentric study

Conducted in the endoscopy unit (Pôle Digestif Paris-Bercy) from 1 January, 2016 – 31 December, 2016

Colonoscopies performed by a team of 30 gastroenterologists
Patients

Inclusion Criteria
All consecutive patients who were scheduled for a colonoscopy

Exclusion Criteria
Patient scheduled for a partial colonoscopy or an interventional colonoscopy
Patients

- Histopathological considerations
  - Adenomas: Tubular / tubulo-villous / serrated adenoma (+- dysplasia)
  - Polyps: Adenoma or hyperplastic polyp located above the sigmoid
  - Neoplasia: Grade 4 or 5 of the Vienna classification
    - 4: Non-invasive high grade neoplasia
    - 5: Invasive neoplasia
  - Adenocarcinomas were counted as adenomas to determine ADR, PDR or NDR

ADR: adenoma detection rate
PDR: polyp detection rate
NDR: neoplasia detection rate
Results

- Study flow chart
- Results in the whole population
- Results according to age
- Results limited to average risk population
6335 colorectal endoscopic procedures

308 exclusions:
- 278 recto-sigmoidoscopies
- 30 interventional procedures

6027 colonoscopies

3308 women (54.9%)
2719 men (45.1%)
57 ±18 year olds

<45 yo (n = 1076)
- High-risk of CRC* (n = 248)
- Average risk of CRC (n = 828)

45-49 yo (n = 515)
- High-risk of CRC* (n = 204)
- Average risk of CRC (n = 311)

≥50 yo (n = 4436)
- High-risk of CRC* (n = 2082)
- Average risk of CRC (n = 2354)

* Personal or familial history of CRC
Flow Chart

6335 colorectal endoscopic procedures

308 exclusions:
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6027 colonoscopies

3308 women (54.9%)
2719 men (45.1%)
57 ±18 year olds

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≥50 yo (n = 4436)
- High-risk of CRC* (n = 2082)
- Average risk of CRC (n = 2354)

75%

* Personal or familial history of CRC
Results – endoscopic procedure

❖ Preparation
Sub optimal in 6.2%

❖ Caecal intubation
99%

❖ Median withdrawal time
470 seconds (+240)

❖ Median number of colonoscopies per physician
140 (+189)
Results – whole population

- 2,054 colonoscopies detected 3,914 lesions or polyps
- Mean number of polyps (MNP): 0.65
- Polyp detection rate (PDR): 34.1%
  - Tubular/villous adenomas: 2,914 (74.4%)
  - Serrated adenomas: 496 (12.7%)
  - Hyperplastic polyps above the sigmoid: 292 (7.5%)
  - Others: 212 (5.4%)
  - Polyps or lesions above 1cm: 538 (13.7%)
- Adenoma detection rate (ADR): 32.1%
- Large polyp detection rate (LPDR): 7.9%
- Neoplasia detection rate (NDP): 3.6%
Results – whole population

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Adenoma detection rate

Neoplasia detection rate
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Discussion

❖ The study demonstrated:

❖ Polyp detection rates increase from 45 years of age

❖ Mean number of polyps and adenoma detection rate = ↗ (x2)

❖ Neoplasia detection rate = ↗ (x4)

❖ Whether or not a personal or familial history

❖ These rates can be considered as low before 45 years old
Conclusion

Proposal of CRC screening from 45 years of age for patients with or without history of colonic polyp or cancer
Conclusion

Proposal of CRC screening from 45 years of age for patients with or without history of colonic polyp or cancer.

We must break the ‘50 years old barrier’!!!
Thank you

Questions?