What’s new in Colorectal Cancer?

Bernard McEntee, General and Colorectal Surgeon
Royston Hospital and HBDHB
What might I be interested in about Colorectal Cancer if I were a GP?

-Since nothing much is “new”
Overview

• Epidemiology
• Risk factors/Pathogenesis
• Prognosis and adjuvant therapy
• BOWEL CANCER SCREENING
Epidemiology

Incidence > 40/100,000

Lifetime risk 6%

The second most common cancer in New Zealand, and the second highest cause of cancer death

Median age at diagnosis 71 years
New Zealand has the 3\textsuperscript{rd} highest mortality rate in the OECD for women and the 6\textsuperscript{th} highest for men

1/3 will die from their disease

Detected at a more advanced stage in NZ c.f. countries with national or regional screening programs
Risk factors

-Age

-Family history
  -1 first degree relative increases risk 2-3 fold
  -2 first degree relatives or young first degree relative increases risk 3-4 fold

-Prior CRC or polyps

-IBD
Risk Factors

- Tobacco/alcohol abuse
  - RR 1.18 for smoking vs non-smoking, also higher mortality

- Obesity

- Stress
Protective Factors

- Regular physical activity
  -27% risk reduction in proximal colon cancer

- Aspirin/NSAIDS

- HRT in post-menopausal women

- Diet
Pathogenesis

- Most colorectal cancer arises from adenomatous polyps
  - A multistep process resulting from both inherited and acquired mutations

- 20% of cases are associated with familial clustering
  - FAP
  - HNPCC
Presentation

- Iron deficiency anaemia
- Rectal bleeding
- Abdominal pain
- Change in bowel habit
- Intestinal obstruction/perforation
-Pathologic stage at presentation is the most important prognostic factor

-SEER Data (2007-2013) 5-year survival Colon Cancer
  -Stage I/II: 91%
  -Stage III: 71.7%
  -Stage IV: 13.6%

-SEER Data (2007-2013) 5-year survival Rectal Cancer
  -Stage I/II: 88.2%
  -Stage III: 70.3%
  -Stage IV: 14.6%
Adjuvant Therapy

- Node positive patients
- High-risk Stage II
  - lymph node count <12
  - poor differentiation
  - vascular/lymphatic/perineural invasion
  - obstruction/perforation
  - T4 disease
Adjuvant Therapy

XELOX

- Oral Capecitabine and infusional Oxaliplatin
- MOSAIC Trial
  - 5 year DFS 75% FOLFOX vs 67% 5-FU
  - 10 year overall survival 71.7% vs 67.1%
    - Stage II 78.4% vs 79.5%
    - Stage III 67.1% vs 59%
Adjuvant Therapy

Side effects of Capecitabine
- Neutropenia/anaemia/thrombocytopenia
- Diarrhoea
- Mouth Ulcers
- Hand-foot syndrome
Adjuvant Therapy

Side effects of Oxaliplatin

- Neutropaenia/anaemia/thrombocytopenia
- Neuropathy
- Diarrhoea
- Taste changes
Neoadjuvant therapy for rectal cancer

- Rationale is to reduce the risk of local recurrence after surgical resection of rectal cancer
- Never actually been shown in clinical trials to increase overall survival
- May be administered as short course radiotherapy (over 5 days) or long course (chemo)radiotherapy over 5 ½ weeks
- In general short course is given for lesions where the surgical resection margin is not threatened, long course chemoradiotherapy is chosen where the primary tumour or lymph node metastases threaten the surgical resection margins
Neoadjuvant therapy for rectal cancer

Nature Reviews | Clinical Oncology
- In 2008 bowel cancer was the second most common cancer in New Zealand and the second highest cause of cancer death.
- The number of new cases of bowel cancer each year was projected to increase by 15% for men and 19% for women to 3302 by 2016.
- New Zealand has the third highest mortality rate in the OECD for women, and sixth highest for men.
- More cancers are detected at a more advanced stage in New Zealand than in many countries where there are national or regional screening programmes.
Bowel Screening

- Employs immunochemical Faecal Occult Blood testing
- More sensitive than Guaic Feecal Occult Blood testing, less dietary restriction, less likely to detect blood from the upper GI tract
- Can adjust the level at which the test becomes positive
Bowel Screening – unique features

Unlike other organs that are screened (breast, cervix), in some cases definitive diagnosis and treatment can be accomplished with the same procedure.

Because iFOBT is being used, the sample can be collected at home.

iFOBT is probably the lowest cost initial screening test for cancer.

Whilst screening for other cancers leads to a rise in incidence and decline in mortality, for bowel cancer (once the initial stages of the screening program are complete) screening leads to a decrease in both incidence and mortality.
Bowel Screening
Bowel Screening – the Pilot

- All men and women aged 50-74
- Exclusions
  - Colonoscopy within last 5 years
  - Bowel polyp or bowel cancer surveillance programme
  - Have had colon removed
  - Being treated for UC/Crohn’s
  - Awaiting bowel investigations
Bowel Screening – Pre-Invitation

- Initial contact by pre-invitation letter sent 2 weeks before invitation
  - Shown to increase participation in screening programmes worldwide

- Pre-invitation letter:
  - Advises people they are eligible
  - Includes generic endorsement by GP
  - Advises people they will receive an invitation and iFOBT kit unless they opt off
  - Includes a detailed information booklet
  - Advises those who should not participate to contact the co-ordination centre
Invitation

- Contains an information leaflet, and iFOBT, a consent form, and a freepost envelope to send the sample to LabPLUS
- Single sample taken at home and sent with consent form to LabPLUS
- No response within 4 weeks -> contact
- LabPLUS notifies registry and patient’s GP of result within 3 working days of sample receipt.

- Positive test: GP to contact patient within 10 working days to inform them of the result, discuss the implications, provide counselling and advice and refer to the WDHB endoscopy unit for colonoscopy.

- Negative result – letter sent to participant. GP notified but no action required.

- Spoilt kit/documentation incomplete: contact and second kit sent
The role of the GP

TABLE 6: KEY INPUT FROM PHNS AND GFTS FOR THE BSP

<table>
<thead>
<tr>
<th>PHNS</th>
<th>GFTS</th>
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<tbody>
<tr>
<td>- Provide information and advice about bowel cancer symptoms to patients.</td>
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<td>- Encourage patients to report symptoms.</td>
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<td>- Assist patients to complete the BowelCheck test.</td>
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<td>- Support patients in making decisions about bowel screening.</td>
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<td>- Arrange follow-up appointments for patients.</td>
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Wavenet District Health Board PHNS and GFTs have a fundamental role in the BSP. PHNS and GFTs have been involved in planning for the BSP since the pilot phase, and have endorsed the current screening model, which closely integrates primary care.

- Connect 2017
- Acurity Health Group Practice
- GP Conference
The role of the GP

KEY POINTS FOR READERS AND GP FOR THE BHP

- Referrals for a screening mammogram
- Referrals with positive results: GPs make a referral for the follow-up visit for a screening mammography and provide additional cancer information and support. The screening mammography is usually arranged for within the next 4 weeks or in the same appointment time for menopausal and premenopausal patients and men.

- Encourage patients with positive results to remain within the public system.

- In addition to the above, refer patients to a GP and in the case of an increased risk of developing breast cancer, for breast awareness.

1/06/2017
Bowel Screening – Pilot Results

Participation:
• 56.9% for round 1
• 51.6% for round 2

Coverage:
• 97.5%
Bowel Screening – Pilot Results

Time to colonoscopy (Goal 95% < 11 weeks)
• 99.3%

Proportion of individuals with positive FOBT undergoing colonoscopy/CT colonography (Goal >90%)
• Round 1 85.7%
• Round 2 82.3%

Colonoscopy completion rate (Goal > 95%)
• 97% in both rounds
Bowel Screening – Pilot Results

Colonoscopy complication rate (Perforation/bleeding)
• 3.7/1000

Colonoscopy complication rate (Other)
• 0.3/1000
Bowel Screening – Pilot Results

Positivity rate (Goal 6-8% for first screening round)
• 7.5% for first round
• 5.8% for second round

CRC Detection Rate (Goal 1.8 – 9.5/1000 first round)
• Round 1 3.1/1000
• Round 2 1.6/1000
Bowel Screening – Pilot Results

**CRC stage at diagnosis**

- **Stage I**: 42.4% 12%
- **Stage II**: 23.1% 27%
- **Stage III**: 20.7% 25%
- **Stage IV**: 8.0% 24%

**Advanced Adenoma Detection Rate**

- **Round 1**: 16.7/1000
- **Round 2**: 8.6/1000

**Adenoma Detection Rate (Target 13.3 – 22.3/1000)**

- **Round 1**: 38.8/1000
- **Round 2**: 24.8/1000
Bowel Screening – Pilot Results

PPV iFOBT for cancer (Target 4.5 – 8.6%)
• Round 1: 4.1%
• Round 2: 2.8%

PPV iFOBT for advanced adenoma
• Round 1: 22.2%
• Round 2: 14.7%

PPV iFOBT for adenoma (Target 9.6 – 40.3%)
• Round 1: 51.5%
• Round 2: 42.5%
However.....

-Recall that the pilot screened patients aged 50-74 years of age
-Also employed a positivity threshold of 75 ng Hb/mL of buffer solution
-Analysis of data from the BSP revealed:
  -That most cancers were diagnosed in individuals aged over 60 years
  -There was a correlation between the amount of Hb in a sample and the likelihood of that person being diagnosed with bowel cancer at colonoscopy
  -The number of bowel cancers being diagnosed per 100 colonoscopies was low
However.....

-Analysis of BSP data cont.

-Rolling out a national bowel screening program using the same combination of age range and positivity threshold as the BSP would result in New Zealand’s colonoscopy resource being overwhelmed
The National Bowel Screening Program

- Eligible people aged 60-74
- Roll out CCDHB/HBDHB March 2018, MCDHB March 2019
- Positivity threshold 200 ng Hb/mL buffer solution
  - Patients simply informed Positive/Negative
- Screening repeated every 2 years
<table>
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<th>Cut-off for positivity</th>
<th>50-74 yrs</th>
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<tr>
<td>ng/mL buffer</td>
<td>75</td>
</tr>
<tr>
<td>µg Hb/g feces</td>
<td>15</td>
</tr>
<tr>
<td>Positivity</td>
<td>7.5%</td>
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<tr>
<td>PPV CRC</td>
<td>4.2%</td>
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<tr>
<td>PPV AdA</td>
<td>24.3%</td>
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<tr>
<td>CRC DR/1,000 screened</td>
<td>2.72</td>
</tr>
<tr>
<td>Reduction in colonoscopy (%)</td>
<td>Ref</td>
</tr>
<tr>
<td>CRC (% detected)</td>
<td>Ref</td>
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</table>
Thank you

-I hope you have found this talk informative and interesting
-Questions/comments?