Keynote: A bad gut feeling – GI consequences of pelvic radiotherapy and management options

Ann Muls, Macmillan Nurse Consultant (GI consequences of cancer treatment)

Workload in GI consequences clinic at The Royal Marsden Hospital

Cancer diagnoses of 207 new patients

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>Prevalence in our clinic population (%)</th>
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</thead>
<tbody>
<tr>
<td>Urology</td>
<td>37% prostate: 88%</td>
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<tr>
<td>Gynaecology</td>
<td>18% cervix: 51%</td>
</tr>
<tr>
<td>Colorectal</td>
<td>16% rectum: 48%</td>
</tr>
<tr>
<td>Upper GI</td>
<td>12% gastric: 46%</td>
</tr>
<tr>
<td>Haematology</td>
<td>6% multiple myeloma: 46%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>

Treatment type

- Pelvic radiation (incl TBI) 71%
- Chemotherapy alone 3%
- Surgery alone 11%
- Chemo + surgery 11%
- No cancer treatment 4% (incl. pre-treatment)

What does radiotherapy do to the bowel?

During radiotherapy = acute phase
- Acute inflammatory response
  - peaks at 2-3 weeks
  - resolves within the next few months

After radiotherapy = chronic phase
- Chronic cytokine response
  - not just inflammation
  - ischaemia + fibrosis
  - progressive

(Gelfand, 1988; Habibski, 1988; Sedgwick, 1994; Hovdenak, 2000; Denham & Haen-Jones, 2002; Andreescu, 2012)
The physiological model

Radiotherapy

Damage to blood vessels

Ischaemia

Cell death

Oedema

Stem cell depletion

Atrophy

Fibrosis

Affects specific GI physiological functions depending on the affected site

Symptoms

But even the best delivery of RT can not eliminate toxicity

Grade 1: Increase of <4 stools per day over baseline

Grade 2: Increase of 4-6 stools per day over baseline

(CTCAE v4.0)

The radiotherapeutic injury – a complex ‘wound’

(Denham & Hauer-Jensen, 2002)

“the wound that does not heal” (Martin, 2000)

Physical

Psychological
The complexity of symptoms

Several symptoms are often present simultaneously (Benton et al., 2011)

women (median 12) > men (median 11)
Symptom burden higher (median 8) > symptom burden lower (median 5)
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So this is often how people feel…

Street sculptures by Bruno Catalano

The Royal Marsden

How to manage?

Information presentation

Collaboration & sharing

Multidisciplinary approach

Decision making process & flexible response

Kane et al. (2011)

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Building links

GP

Length barriers

Length barriers

psychology

psychology

Lymphoedema

Urology team

Lymphoedema

Urology team

Sexual counselling

Other services

physiotherapy

Building links

patient

Building links

patient

The Royal Marsden

The ORBIT study

THE LANCET

Managing gastrointestinal symptoms after cancer treatment: a practical approach for gastroenterologists

Kane et al. (2011)
The algorithm itself…

GUIDANCE: The practical management of the gastrointestinal symptoms of pelvic radiation disease

You can:
ask the key questions
Following pelvic radiotherapy, does your patient

→ need to poo at night?
→ need to rush to the loo, or not make it in time?
→ have bleeding or
→ have other GI symptoms that interfere with an active full life?

What do symptoms tell us about the cause ???

Empower people to go to their GP / oncology team and signpost them to request a gastroenterology referral.

Freely available from:

You can:
ask further detail:

→ What was their bowel function like before?
→ What has changed
→ Ask what the most troublesome symptoms are:
  → When did this start?
  → How often does it happen?
  → How severe is this? (scale 0-10)
  → Does anything trigger it?
  → Does anything relieve it?
  → Does anything worsen it?
  → Do they take anything (medication) to help?
  → How much is it troubling them?
→ Bowel diary

One symptom, many possible contributing factors…
The only way to know is to investigate systematically...

Tests done (n=207)

- Routine bloods: 77%
- Additional bloods: 74%
- Faecal elastase: 44%
- Gastroscopy + D2 asp: 60%
- Breath test: 55%
- SeHCAT scan: 37%
- Flexible sigmoidoscopy: 39%
- Colonoscopy: 25%
- Imaging: 3%

The complexity of our patient population – why the service NEEDS a gastroenterologist

No diagnosis made: 8%
One problem only: 26%
2 problems at the same time: 18%
3 GI diagnoses simultaneously: 19%
4 or more: 29%

Shift from >35% to 65% of multiple and often complex gastroenterological diagnoses

Diagnoses made

- SIBO: 39%
- BAM: 21%
- Vit D deficiency: 18%
- Pelvic floor muscle weakness: 16%
- Vit B12 deficiency: 14%
- Advanced polyp: 13%
- Excessive fibre intake: 12%
- Pancreatic insufficiency: 7%

(Muls & Andreyev, 2014)

Major GI diagnoses accounting for symptoms of those treated with pelvic radiation vs other treatments (%)

- Information to support self-management
- Promoting health and wellbeing:
  - Physical activity
  - Moderate alcohol consumption & smoking cessation
  - Managing stress
  - Dietary advice and fluid intake
- Access to public toilets
- Pelvic floor and toileting exercises
- Using stool bulking agents or anti-diarrhoeal medication
Reassure & EXPLAIN there could be MANY contributing factors and causes and INVESTIGATIONS are likely to be NEEDED to make a difference

References


Andreyev J. Gastrointestinal symptoms after pelvic radiotherapy: a new understanding to improve management of symptomatic patients. The Royal Marsden, April 2011.


Kane B, Keen S, Information Sharing at Multidisciplinary Medical Team Meetings. Group Division and Negotiation 2011; 40: 437-44.


References

Prostate Cancer  UK and the College of Radiographers Prostate Cancer Conference 2014  Ann Muls

Picture sources

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- ‘Body systems’ by Body Systems Design
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- ‘Money man’ by Invest in the Northeast
  Accessed online 16.03.2014 via http://www.investinnortheast.com/?tag=budget

- Street sculptures by Bruno Catalano
Management of GI and Nutritional Consequences of Cancer Treatment Course

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