Nutritional assessment & support for the upper GI cancer patient

Catherine Fleuret
Specialist Dietitian, The Royal Marsden
Outline

• Nutritional status & implications
• The role of nutrition & the dietitian
• Identifying patients
• Nutrition support during treatment
• Nutrition after treatment
• Summary
Nutritional status of UGI patients
Weight loss & symptom burden at diagnosis

Khalid et al., 2007
151 new patients (122 GI & 29 Lung)
33% lost ≥10% body weight in 6/12 prior to presentation

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No appetite</td>
<td>38</td>
</tr>
<tr>
<td>Early satiety</td>
<td>27</td>
</tr>
<tr>
<td>Pain</td>
<td>23</td>
</tr>
<tr>
<td>Taste changes</td>
<td>20</td>
</tr>
<tr>
<td>Nausea</td>
<td>18</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>17</td>
</tr>
<tr>
<td>Constipation</td>
<td>14</td>
</tr>
<tr>
<td>Vomiting</td>
<td>11</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>11</td>
</tr>
<tr>
<td>Problems swallowing</td>
<td>9</td>
</tr>
<tr>
<td>Smells bother me</td>
<td>7</td>
</tr>
<tr>
<td>Mouth sores</td>
<td>1</td>
</tr>
</tbody>
</table>
Implications

- Weight loss of ≥10% in the 6/12 prior to surgery is an independent risk factor for post surgical complications (Bozzetti et al., 2007)
- Weight loss prior to chemo
  - More frequent and severe dose limiting toxicity
  - Poorer QoL
  - Shorter survival (Andreyev et al., 1998)

Nutritional issues persist throughout patient journey

Bozzetti et al., 2009
- Oesophageal patients – mean weight loss of 16.3 % (16-40%)
- Nutritional risk highest in UGI patients
The role of nutrition & the dietitian
The role of nutrition & the dietitian

Tailored nutritional support:

- Up nutritional intake
- Down therapy associated weight loss
- Down treatment interruptions

(Ravasco et al., 2005; Ravasco et al., 2012)

- Prevents or minimises further weight loss (Baldwin et al., 2012)

- Dietitian input required by locally agreed OG guidelines, throughout the treatment pathway

- Recognised and elucidated in National & International guidelines (Allum et al., 2011; Arends et al., 2017)
Identifying patients at risk
## Royal Marsden Nutrition Screening Tool

<table>
<thead>
<tr>
<th>Question</th>
<th>If answer to the question is yes then score</th>
</tr>
</thead>
</table>
| 1. Has the patient experienced unintentional weight loss in the last 3 months? (\(> 7 \text{ kg in men or } > 5.5 \text{ kg in women}\)) If not, unintentional weight loss less than the above | 10  
5 |
| 2. Does the patient look underweight?                                     | 5                                           |
| 3. Has the patient had a reduced food intake (less than 50% of meals) in the last 5 days (this may be due to mucositis, dysphagia, nausea, bowel obstruction, vomiting)? | 5                                           |
| 4. Is the patient experiencing symptoms that are affecting food intake e.g. mucositis, nausea, vomiting, diarrhoea, constipation? | 3                                           |

**Total score**

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### Risk of Malnutrition

0-4 Low Risk 5-9 Medium Risk 10+ High Risk
Nutrition support during treatment

Case study
<table>
<thead>
<tr>
<th>Mr R</th>
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| 55 year old | Self-employed carer for disabled wife |
| Oesophageal adenocarcinoma | Financial difficulties |
| Neo-adjuvant chemo | Dysphagic, only tolerating liquids |
| Oesophagogastrectomy | Stressed |
| Adjuvant chemo | Disempowered |

<table>
<thead>
<tr>
<th>Anthropometry:</th>
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<tbody>
<tr>
<td>- Weight – 80kg</td>
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<tr>
<td>- BMI – 30.0kg/m² (obese)</td>
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<table>
<thead>
<tr>
<th>Weight history:</th>
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<tr>
<td>20% weight loss in last 3/12 secondary to dysphagia and stress</td>
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</table>
Nutrition support during chemotherapy
Aim and methods

- Minimise risk of toxicity due to weight loss
- Help complete intended chemo dose
- Preserve performance status and QoL

- Focus on managing symptoms
- Texture modification & food fortification
- Oral nutritional Supplements (ONS)
- Explore artificial nutrition (NG, NJ, jejunostomy, PN if GI tract cannot be accessed)
A word on Oral Nutritional supplements (ONS)

- London Procurement Programme (LPP) demonstrated inappropriate prescribing, dosing & poor compliance with ONS

How can we minimise these issues:

- Supporting literature (Fearon et al., 2003)
- Flavour preferences & palatability (Sultan et al., 2012)
- Ease of preparation (Hubbard et al., 2012)
- Regular encouragement (Hubbard et al., 2012)
Results of nutrition support during chemo

Weight stable (78kg, BMI: 29.4kg/m²)
Swallow resolved

But 4 dietetic reviews during chemotherapy

Dysphagia, muscositis, taste changes, nausea & vomiting

- Liquidised food + Scandishake
- Fortisip Yogurt Style tds + liquidised food
- Fortisip 5 x per day + Forticreme Complete
- Discussion around NG/NJ
- Physiotherapy input was key
Nutritional Support after treatment
Nutrition after surgery

Mr R’s weight loss after surgery:
2/52 post op – 74kg (5% weight loss)
6/12 post op – 70kg (10% weight loss)

Early satiety, anorexia, reflux, diarrhoea

• Little and often intake
• Food fortification & low volume ONS
• Pattern of eating and drinking
• Appropriate medications
Longer term considerations

**Vitamins & minerals**

- IM B12 injections every 3 months
- Iron (esp. total gastrectomy) & Calcium
- Fat soluble vitamins (D, A, E)

  90% had ≥ 1 deficiency at 18 months post op

  (Heneghan et al. 2015)

**Chronic weight loss & altered bowel habits**

49% ≥10% weight loss 18-24 months (Heneghan et al. 2015)

Malabsorption - ? Pancreatic insufficiency, small intestinal bacterial overgrowth, bile acid malabsorption

  Referral to Gastroenterologist
Summary

• High risk group with nutritional problems from diagnosis, during and after treatment
• Malnutrition affects tolerance to treatment and patient outcome
• Nutritional intervention:
  • Timely
  • Appropriate
  • Review & monitoring
  • Adapt to need
• Good communication with GPs in short & long-term
• Refer to other specialists