Nutrition Care in Palliative Cancer Patients

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Topics

✓ What is palliative care?
✓ Research and challenges
✓ The terminology problem
✓ Case example
✓ Assessment
✓ Weight loss
✓ Interventions
✓ Conclusion
Palliative care

Say "palliative care" and most people imagine cancer patients being made comfortable in an end-of-life hospice setting.
WHO Definition of Palliative Care

• Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.
Palliative care:

• provides relief from pain and other distressing symptoms;
• affirms life and regards dying as a normal process;
• intends neither to hasten or postpone death;
• integrates the psychological and spiritual aspects of patient care;
• offers a support system to help patients live as actively as possible until death;
• offers a support system to help the family cope during the patients illness and in their own bereavement;
Palliative care:

• uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
• will enhance quality of life, and may also positively influence the course of illness;
• is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.
Early Palliative Care for Patients with Metastatic Non-Small-Cell Lung Cancer

Parachutes reduce the risk of injury after gravitational challenge, but their effectiveness has not been proved with randomised controlled trials.

Smith G, Pell J
BMJ 2003
Smertetrappe

Trinn 3: Invasive teknikker (lokale og regionale blokader)

Trinn 2: Ev. trinn 1 + opioider (peroralt, parenteralt)
- Morfin (Morphine – Dolcontin)
- Ketobemidon (Ketorax)
- Oxykodon (OxyContin – OxyNorm)
- Fentany (Leptanal, Instanyl, Abstral, Durogesic)
- Hydromorfon (Palladon)
- Metadon

*)

Trinn 1: Perifert virkende (peroralt, parenteralt)
- Paracetamol/ Perfalgan
- NSAID

Adjuvante "koanalgetika"
- Antidepressiva
- Antikonvulsiva
- Steroider

….. OG IKKE GLEM laksantia!!!

*) Paralgin Forte, Tramadol, Norspan ("svake opioider") kan benyttes som intermedisert trinn, men har maksimal dose og må ved utilstrekkelig effekt erstattes av sterke opioider.

….. and the food

Lindring i Nord, 2012
Nutrition disorders and nutrition-related conditions

- Malnutrition; syn: Undernutrition
  - Disease-related malnutrition (DRM)
  - Cachexia (=inflammatory-induced DRM)
  - Acute disease or Injury-related malnutrition
  - Chronic disease-related malnutrition
  - Cancer cachexia
  - Non-cachectic DRM (= DRM without inflammation)
  - Starvation – food deprivation
  - Sarcopenia
  - Frailty
Figure 2. Differential factors involved in cachexia and sarcopenia. The factors promoting cachexia are different from those behind sarcopenia.

Josep M Argilés, Silvia Busquets, Britta Stemmler, Francisco J López-Soriano
Cachexia and sarcopenia: mechanisms and potential targets for intervention
Current Opinion in Pharmacology, Volume 22, 2015, 100–106
Definition and classification of cancer cachexia: an international consensus

Figure 2. Stages of cancer cachexia.

Cancer cachexia: Developing multimodal therapy for a multidimensional problem

Fig. 5. Multimodal rehabilitation for cancer cachexia. Stabilisation of weight and physical performance are reasonable goals which may be exceeded in some and unmet in others.

Fearon KCK. Eur J Cancer, 2008;44:1124–1132
Overlaps different nutrition disorders / conditions in patients with advanced colorectal cancer

N=73

Cachexia (CCSG)

Malnourished (SGA)

At risk (NRS-2002)

N=49

Cachexia (CCSG)

Malnourished (SGA)

Sarcopenia

Thoresen, 2012
Outcome, survival

Sarcopenia       -----  N=28
No sarcopenia    ____  N=43
Log rank test, p=0.058

Malnourished     -----  N=26
Well nourished   ____  N=51
Log rank test, p=0.055

Cachexia         -----  N=16
No cachexia      ____  N=57
Log rank test, p=0.003

Thoresen, 2012
What do we do in mean time….

Best possible practice on an individual base.
Evidence-based medicine is the integration of best research evidence with clinical expertise and patient values.

THE NUTRITION CARE PROCESS MODEL

SCREENING & REFERRAL SYSTEM
- Identify risk factors
- Use appropriate tools and methods
- Involve interdisciplinary collaboration

Practice Settings

Nutrition Assessment & Re-Assessment
- Obtain / collect important and relevant data
- Analyze / interpret collected data

Nutrition Diagnosis
- P - Identify problem
- E - Determine etiology / cause
- S - State signs & symptoms

Nutrition Intervention
- Determine intervention and prescription
- Formulate goals and determine action
- Implement action

Nutrition Monitoring & Evaluation
- Select or identify quality indicators
- Monitor & evaluate resolution of diagnosis

Economics

Individual / Population Interacts with Nutrition Professional

OUTCOMES MANAGEMENT SYSTEM
- Research NCP
- Use aggregated data to conduct research
- Conduct continuous quality improvement
- Calculate and report quality indicators

ST. OLAVS HOSPITAL
UNIVERSITETSSYKEHUSET I TRONDHEIM
### Nutrition focus and goal

<table>
<thead>
<tr>
<th>Expected survival</th>
<th>Main goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months - year</td>
<td>Nutrition status</td>
</tr>
<tr>
<td>Weeks - months</td>
<td>Quality of life</td>
</tr>
<tr>
<td>Days</td>
<td>Symbolism</td>
</tr>
</tbody>
</table>
De trodde Arne (85) var dement, men da han fikk mat, skjedde et lite mirakel

Pleierne fant ham avmagret og glemsk i leiligheten. Da Arne Brattestad (85) begynte å spise, skjedde det noe oppsiktsvekkende.
Questions raised from oncology nurses.

«What to do if the patient can not eat / drink anymore?»

«What do we do at the nursing home or home care then?»

«Patient / family asks for intravenous feeding.»

«What is right to do?»

«Information / discussion with relatives - what do we or do we not, why and how?»
Case

65 year old male
Diagnose colorectal cancer, treatment; surgery and adjuvant chemoterapy in 2012.
Peritoneal carcinomatosis.
Chemotherapy

Autumn 2013;
Palliativ chemotherapy, ended due to severe side effects.
January 2014; admittet to palliative care unit for pain treatmen. Abdominal pain after food intake.
Referred to dietitian for assessment. Intravenous feeding was an option.
Guidelines on artificial nutrition versus hydration in terminal cancer patients. European Association for Palliative Care.

Step I involves assessing the patient concerning the following:
1) oncological/clinical condition;
2) symptoms;
3) expected length of survival;
4) hydration and nutritional status;
5) spontaneous or voluntary nutrient intake;
6) psychological profile;
7) gut function and potential route of administration;
8) need for special services based on type of nutritional support prescribed.

…Case…

1. Condition
Peritoneal carcinomatosis

2. Symptoms
Pain after food intake, mild edema in ankles
S-Alb 30 g/L, CRP 113 mg/L, Hb 11,3 g/dl

3. Expected length of survival
??

4. Hydration and nutritional status
181 cm, 59 kg, BMI 18, Weight loss 30 kg/6 months = 34 %
Severe malnourished
...case...

5. Spontaneous or voluntary nutrient intake
Diet record; 1350 kcal og 50 gram protein. Covered 65% av energy and 55% of protein need (estimated).

6. Psychological profile
Skeptical to intravenous feeding due to earlier experience.
Want to increase intake per os.
...case...

7. Gut function and potential route of administration
Has intestinal passage, but pain after food intake

8. Need for special services
Home care or nursing home

Decision
The patients autonomy was respected
Food plan at discharge
Food and drinks, oral nutrition supplements
2 weeks later rehospitalised Palliative Care Unit
Suspected intestine perforation, Nil per os,
Referred to gasto surgeons and planned for intravenous feeding.
**Lab**: Albumin 18 g/L, CRP 260 mg/L,
weight 55 kg, BMI 17,
Bedridden, fetus positioned

**Psychological profile**
Wanted his brother to participate in decision making.
Brother argued pro nutrition

**Desicion...**
…case…

**Descision**
Put on intravenous nutrition
«Intestine perforation/fistula» was an abscess and the patient could continue to eat
Was discharged to nursing home end of January with i.v. feeding (1100 kcal and 50 g protein)

WHO status grade 3- 4
Anticipated short survival
Case...what happened..

In April 2014
Moved to his home
Medical treatment; antibiotics on and off

Lab; S-albumin 32, CRP 70, Hb 10.4
WHO status grade 2-3.
Continued i.v. feeding and hydration
Good tolerance
Weight stable

Passed away in June
Evaluation of nutritional status in advanced metastatic cancer

Table 2  Gastrointestinal symptoms (n=352)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss&lt;sup&gt;a&lt;/sup&gt;</td>
<td>85</td>
</tr>
<tr>
<td>Anorexia</td>
<td>81</td>
</tr>
<tr>
<td>Early satiety</td>
<td>69</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>69</td>
</tr>
<tr>
<td>Constipation</td>
<td>59</td>
</tr>
<tr>
<td>Nausea</td>
<td>49</td>
</tr>
<tr>
<td>Bloating</td>
<td>43</td>
</tr>
<tr>
<td>Vomiting</td>
<td>38</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>37</td>
</tr>
<tr>
<td>Dyspepsia</td>
<td>35</td>
</tr>
<tr>
<td>Belching</td>
<td>35</td>
</tr>
<tr>
<td>Hiccup</td>
<td>25</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>24</td>
</tr>
<tr>
<td>Sore mouth/throat</td>
<td>22</td>
</tr>
<tr>
<td>Decreased taste</td>
<td>16</td>
</tr>
<tr>
<td>Odynophagia</td>
<td>15</td>
</tr>
</tbody>
</table>

<sup>a</sup> Weight loss (any severity) in the 6 months prior to assessment.
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage of patients with symptoms: carers view (n=207)</th>
<th>Ranking order of frequency: general practitioners view (n=77)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weakness</td>
<td>72</td>
<td>9</td>
</tr>
<tr>
<td>Pain</td>
<td>71</td>
<td>1</td>
</tr>
<tr>
<td>Anorexia</td>
<td>70</td>
<td>3 equal</td>
</tr>
<tr>
<td>Weight loss</td>
<td>62</td>
<td>-</td>
</tr>
<tr>
<td>Constipation</td>
<td>43</td>
<td>2</td>
</tr>
<tr>
<td>Insomnia</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td>Nausea</td>
<td>39</td>
<td>3 equal</td>
</tr>
<tr>
<td>Vomiting</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td>Dyspnoea</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>30</td>
<td>-</td>
</tr>
</tbody>
</table>
If we are to counteract the weight loss we need to know the reasons why patients lose weight.
Weight loss - Etiology
(Cause/Contributing Risk Factors)

• Physiological causes increasing nutrient needs, e.g., due to prolonged catabolic illness, trauma, malabsorption
• Decreased ability to consume sufficient energy
• Lack of or limited access to food, e.g., economic constraints, restricting food given to elderly and/or children
• Cultural practices that affect ability to access food
• Prolonged hospitalization
• Psychological causes such as depression and disordered eating
• Lack of self-feeding ability
Undernutrition

**Reduced intake**: due to candidiasis of the mouth, stomatitis, taste changes, dry mucus membranes, mouth sores, dysphagia, obstruction, vomiting, constipation, nausea, pain, diarrhea, dyspnoea, depression, psykosocial factors, side effect of medication

**Increased loss**: Malabsorption, short bowel, dumping, chronic diarrhoea, fistulas, ascites.

**Immobilisation**

**Other catabolic conditions**: Infections, heart-, lung-, kidney disease, diabetes, liver cirrhosis
It is important to treat weight loss caused by cancer and its treatment.

- It is important that cancer symptoms and side effects that affect eating and cause weight loss are treated early. Both nutrition therapy and medicine can help the patient stay at a healthy weight. Medicine may be used for the following:
  - To help increase appetite.
  - To help digest food.
  - To help the muscles of the stomach and intestines contract (to keep food moving along).
  - To prevent or treat nausea and vomiting.
  - To prevent or treat diarrhea.
  - To prevent or treat constipation.
  - To prevent and treat mouth problems (such as dry mouth, infection, pain, and sores).
  - To prevent and treat pain.

http://www.ncbi.nlm.nih.gov/books/NBK66004/
Guidelines; energy and protein

<table>
<thead>
<tr>
<th></th>
<th>Energy</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>REO</td>
<td>Ambulatory patients: 30-35 kcal/kg/day</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Bedridden patients: 25-30 kcal/kg/dag</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age &gt;70 år: reduce 10 %</td>
<td></td>
</tr>
<tr>
<td>National guidelines</td>
<td>Ambulatory patients: 30-35 kcal/kg/day</td>
<td>No</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Age &gt;70 år: reduce 10 %</td>
<td></td>
</tr>
<tr>
<td>EPCRC</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ESPEN</td>
<td>If not measured, 25-30 kcal/kg/day</td>
<td>&gt; 1 g/kg/day, if possible up to 1.5 g/kg/day</td>
</tr>
</tbody>
</table>
Conclusion

- **not possible to conclude firmly** on the effectiveness of dietary interventions in advanced cancer and cachexia. (limited number of conducted studies, the inconsistent results, moderate quality of the included studies)

- this review shows that **dietary counseling can have some effect** on body weight and energy intake although heterogeneity between studies is present.

- **few studies measured energy intake**, but it seems that dietary interventions can improve energy intake.

- **the increase in energy intake seems not transferable to improvement in patients’ weight**.

- this review highlights that **dietary intervention trials generally report poorly** both when characterizing patient populations and when describing the nutritional intervention.

- However, nutrition is a crucial part of a multimodal cachexia intervention, and **it is not plausible to increase or stabilize weight if nutritional needs are not met**.

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Crit Rev in Oncol/Hemat 2014;91:210-221
Norwegian National guidelines, 03/2015

**Symptom treatment**
Pain, dyspnoea, dry mouth, nausea, constipation, GI obstruction

**Nutrition**
Nutritional status
Assessment
Interventions

**Qualification requirements**

https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/918/Nasjonalt%20handlingsprogram%20for%20palliasjon%20i%20kreftomsorgen-IS-2285.pdf
Nutrition interventions

Praktiske råd:
Tilby individuelt tilpassede, små og hyppige måltider (6-8 per dag)
Ha snacks, mellommåltider eller næringsdrikker lett tilgjengelig
Tilby kaloririk drikke fremfor vann
Tilby mat når pasienten er mest opplagt. Forsøk å tilby uten alltid å spørre først.
At man spiser, er viktigere enn hva man spiser
Tilrettelegger for endret konsistens ved tygge- eller svelgproblemer
Tilrettelegger for enklest mulig matlaging dersom pasienten må lage mat selv
Ved langsom ventrikkeltømming tåles ofte små, karbohydratrike måltider (frukt, kjeks, ristet brød osv.) bedre enn protein- og fettrike måltider
Tilby daglig multivitamintilskudd samt tran ved ensidig kosthold
SPIS LITE OG OFTE –
4+2
Det kan være lettere å spise nok om du spiser lite og ofte.
Det anbefales at du spiser cirka fire hovedmål til i løpet en dag, for eksempel frokost, lunsj, middag og kveldsmat. I tillegg bør du spise cirka to mellommåltider. Disse kan bidra mye til ditt næringssinnek. En tommefingerregel er at det ikke bør gå mer enn tre timer mellom hvert måltid.

MAKS 11 TIMER MELLOM KVELDS OG FROKOST

Behandling av underernæring

Figur 3: Ernæringstrappen

- Spisesituasjon
- Normal kost
- Tilpasset kost
- Beriket kost
- Mellommåltider
- Næringsdrikker
- Sondeernæring
- Intravenøs ernæring
Clinical outcomes and contributors to weight loss in a cancer cachexia clinic

An interdisciplinary cachexia clinic specializing in management of weight loss and anorexia. At the University of Texas M. D. Anderson Cancer Center,

151 consecutive patients

First visit

Median weight loss 9%, BMI 20.8, nutrition impact symptoms 3,

41% hypermetabolic

Treatment

Medication, dietary counseling, exercise recommendation

Outcome

Improved appetite (score 7 -> 5), 31/92 (34%) weight gain at second visit

Fabbro, 2011
Medical intervention

Table 2.

<table>
<thead>
<tr>
<th>Nutrition impact symptoms</th>
<th>Number (%)</th>
<th>Corresponding interventions</th>
<th>Number (% treated among effected individuals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early satiety</td>
<td>94 (62%)</td>
<td>Metoclopramide</td>
<td>74 (79%)</td>
</tr>
<tr>
<td>Constipation</td>
<td>78 (52%)</td>
<td>Laxatives</td>
<td>68 (87%)</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>67 (44%)</td>
<td>Antiemetics (mostly metoclopramide)</td>
<td>54 (81%)</td>
</tr>
<tr>
<td>Depressed mood</td>
<td>63 (42%)</td>
<td>Antidepressant (mostly mirtazapine)</td>
<td>51 (81%)</td>
</tr>
<tr>
<td>Dysgeusia</td>
<td>42 (28%)</td>
<td>Zinc supplement</td>
<td>20 (48%)</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>21 (14%)</td>
<td>GI or speech therapy evaluation</td>
<td>5 (24%)</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>14 (9%)</td>
<td>Artificial saliva</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Mucositis</td>
<td>11 (7%)</td>
<td>Opioids and topical mouthwash</td>
<td>3 (27%)</td>
</tr>
<tr>
<td>Dental pain</td>
<td>8 (5%)</td>
<td>Dental referral</td>
<td>2 (25%)</td>
</tr>
</tbody>
</table>

Fabbro, 2011
A Randomized Study of Nutritional Support in Patients With Colorectal and Gastric Cancer

Christina R. Persson, Birgitta B. K. Johansson, Per-Olow Sjöden, and Bengt L. G. Glimelius

Figure 4. Survival in patients randomized to IS + ISGR and GR + SC groups, expressed as cumulative percent surviving.
The association of nutritional assessment criteria with health-related quality of life in patients with advanced colorectal carcinoma

L. THORESEN, MSc, Oncology Clinic, St. Olavs University Hospital, Trondheim, and Institute of Cancer Research and Molecular Medicine, Faculty of Medicine, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; G. FRYKHLÖM, MD, PhD, Senior Oncologist, Oncology Clinic, Radiumhemmet, Karolinska Institute and University Hospital, Stockholm, Sweden; S. LYDERSEN, PhD, Professor Medical Statistics, Department of Neuroscience, Faculty of Medicine, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; H. ULVELAND, MSc, Clinical Dietitian, Lecturer, Atlantis Medical College, Oslo, Norway; V. BARACOS, PhD, Professor and Chair in Palliative Medicine, Department of Oncology, University of Alberta, Edmonton, Alberta, Canada; L. BIRDSELL, MD Candidate, Clinical Research Assistant, Department of Oncology, University of Alberta, Edmonton, Alberta, Canada; U. FALKMER, MD, PhD, Professor in Clinical Oncology, Senior Physician, Oncology Clinic, County Hospital Ryhov, Jönköping, and Department of Clinical and Experimental Medicine, Faculty of Medicine, University of Linköping, Sweden, and Department of Oncology, Aalborg University Hospital, Aalborg, Denmark
Change in mean quality of life scales and single symptoms during 3-month follow-up

Thoresen, 2012
Conclusion

✓ Oncology and palliative care should not be considered as separated entities, but they both constitute simultaneous care
✓ Diet research is limited in this topic
✓ Weight loss is frequent
✓ Nutrition is one of our basic human needs
✓ To increase or stabilize weight nutritional needs must be met
✓ Treatment of weight loss requires a multimodal approach