Nutritional care during and after chemo- and radiotherapy

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Prevalence of malnutrition in cancer care

• Malnutrition is seen in 8-85% of patients with cancer during some part of the cancer trajectory
• Patients with head and neck, oesophageal, lung gastrointestinal and pancreatic cancers have high risk for nutritional problems

Bozzetti (2013) Critical Reviews in Oncology/Hematology 87, 172-200
Causes to malnutrition in cancer patients

- Tumour can depending on tumour site, size, type and stage cause:
  - systemic effects such as anorexia
  - local effects such as obstruction
- Side-effects of treatment
  - acute, consequential, late
- Psychological and emotional stress
- Existential crisis caused by the cancer diagnosis

Capra et al. Nutrition (2001) 17, 769-772
Consequences of malnutrition for cancer patients

• Weight loss
• Increased morbidity and mortality
• Increased complications and side-effects of cancer treatment
• Reduction of treatment efficacy
• Weakness and troublesome tiredness
• Reduced functional ability
• Deteriorated Health Related Quality of Life

Ravasco et al. (2007) Clinical Nutrition 26, 7-15
Bozzetti (2013) Critical Reviews in Oncology/Hematology 87, 172-200
Chemotherapy and radiotherapy

• Chemotherapy
  – Systemic therapy – affects the whole body
  – Interfere with cellular metabolism and replication

• Radiotherapy
  – Local therapy – affects within the treatment field
  – Damage the DNA
  – Toxic to both normal (especially with a rapid cell turnover) and malignant cells. However, normal healthy cells recover more quickly than malignant.
Nutrition impact symptoms in cancer patients

- Sore mouth
- Dry mouth
- Dysphagia
- Pain
- Taste changes
- Altered smell
- Anorexia
- Feeling full
- Nausea and vomiting
- Diarrhoea
- Constipation
- Gas and bloating
- Acute colitis and enteritis
- Fatigue
- Anxiety
- Worries

Grant and Davies (2000) Seminars in Oncology Nursing 16, 113-121
Tong et al. (2009) Supportive Care in Cancer 17, 83-90
Kubrak et al. (2010) Head & Neck 32, 290-300
Nutritional cancer care

• Early screening – identify patients at risk
• Comprehensive assessment
• Individual adjusted interventions
• Careful documentation
• Continuous evaluation and reassessment
• Provide holistic care and ensure continuity of care with easy access

van Bokhorst-de van der Schueren (2005) European Journal of Oncology Nursing 9, 74-83
Capra et al. Nutrition (2001) 17, 769-772
Nutritional screening

• Goal: Identify patients who are at risk of malnutrition or are malnourished
• BMI < 20.5
• Weight loss
• Reduced dietary intake
• Presence of nutrition impact symptoms (NIS)
• Functional capacity

Davies (2005) European Journal of Oncology Nursing 9, 64-73
Bozzetti (2013) Critical Reviews in Oncology/Hematology 87, 172-200
Nutritional screening – assessment

- Goals of nutritional screening – identify patients at risk for malnutrition or patients that are malnourished
- Goals of nutritional assessment – quantify risk for malnutrition related complications and monitor adequacy of nutrition therapy.

Huhmann et al. (2005) Lancet Oncology 6, 334-343
Nutritional screening tools

• Tools validated in cancer care:
  – Patient-Generated Subjective Global Assessment, PG-SGA (Ottery, 1996)
  – Scored PG-SGA (Ottery, 2000)
  – ESPEN NRS 2002 (Kondrup et al., 2003, Bozzetti et al., 2012)

• Tools developed for other groups of patients
  – MNA (Guigoz, 1996)
  – MST (Ferguson et al. 1999)
    • among others....
Assess percentage of weight loss

• All weight loss shall be avoided during treatment for cancer
• Limits for significant weight loss
  – 1-2% in a week
  – 5% in a month
  – 7% in three months
  – 10% in six months

Ottery (1995) Seminars in Oncology 22, 98-111
Weight loss is not normal!

• Be aware of attitudes!
• Both patients and health care personnel might believe that side-effects of treatment affecting nutritional status might be viewed as inevitable and even normal.

Bjerrum et al. (2011) Scandinavian Journal of Caring Sciences 26, 81-89
Nutritional care

• Individual tailored nutritional interventions should take into consideration the patient’s prognosis, treatment, gut function, ability to eat and personal preferences

• The care provided must focus on the patients multitude of needs
  – Aggressive treatment of nutrition related symptoms
  – Address psychosocial and emotional needs

Ottery 1994; Bauer et al. 2002; Larsson, 2007; Ravasco et al. 2007
Nutritional support

• Individualized dietary counseling
  – Has been proven to have sustained effects over time alone or together with oral supplements
• Oral supplementations
• Enteral tube feeding
• Parenteral nutrition

Ravasco et al. (2007) Clinical Nutrition 26, 7-15
van Bokhorst-de van der Schueren et al. (1999) Cancer 86, 519-527
Nurses role in the nutritional cancer care team

- Nutritional screening including nutrition impact symptoms
- Nutritional advice and dietary counselling
- Modification of consistency and caloric density
- Monitor food intake
- Adaption of number of meals
- Communicate with other health care professionals e.g. dieticians, physicians and dental hygienists and make appropriate referrals

van Bokhorst-de van der Schueren (2005) European Journal of Oncology Nursing 9, 74-83
Nurse-led follow-up in cancer care

- Patients with various diagnosis report unmet physical, emotional and social needs
- Cancer follow-up/rehabilitation is a growing issue in health care
- Focus on impact of disease and treatment on the patient’s well-being and functioning in daily life
- A way to increase continuity, access and quality of care

Example of a supportive nursing care clinic for patients with head and neck cancer

• Focus of care
  – Symptom control
  – Nutritional care
  – Psychosocial and emotional support

• The principal aim was to improve the patients’ nutritional status and life situation

Larsson et al. (2007) European Journal of Oncology Nursing 11, 49-59
Experienced significance of a supportive nurse-led clinic  
Larsson et al. (2007) European Journal of Oncology Nursing  11, 49-59
Percentage of weight loss

- % weight loss Historical control (n=20)
- % weight loss SNCC (n=20)
Take home messages

• Malnutrition should be avoided as far as possible in cancer patients treated with radio- or chemotherapy
• Individualized nutritional interventions should be initiated early and incorporated in treatment plans in order to be successful
• In order to achieve this should all patients be screened for eating problems and weight loss before start of treatment and thereafter followed on an regular basis
• A supportive nurse clinic can provide a care that meet the needs of patients with cancer, both concerning practical things related to the disease and its treatment, and to human-oriented needs.
Thank you for your attention!