

Supportive care for better treatment outcome

Mucositis Management

Nutritional support can contribute to improved anticancer therapy



Clinically relevant and often dose-limiting toxicity of cancer treatment^{1,2}

One of the unfortunate consequences of cancer treatment is the development of (oral) mucositis. It occurs after chemotherapy (CT) as well as after radiotherapy (RT).

As a consequence of mucositis your patients may suffer from pain and difficulties of eating. Thus effective cancer treatment might be influenced.

Mucositis - side effect of cancer treatment



Significant toxicity caused by antineoplastic drugs and/or radiation in cancer patients

Mucosal damage secondary to cancer therapy may affect

- oral cavity
- pharyngeal, laryngeal, and esophageal regions
- other areas of the gastrointestinal tract¹



Gastrointestinal mucositis

- Oral mucositis

Consequences

- Weight loss
- Impaired functional status
- Reduced quality of life
- Increased consumption of health care resources
- Reduction/cessation of treatment
- Less tumor control

Impaired prognosis/ higher mortality

* particularly in immunocompromised patients (e.g. neutropenic patients) Adapted from Keefe DM et al.³

Treatment-related side effect with significant clinical impact

Management of mucositis is of utmost importance because it affects treatment, tolerability and overall quality of life⁴

Impaired nutrition - cause and consequence of mucositis

Nutritional support is an important part of any mucositis management strategy^{1,2,5}

Guideline recommendations: ESMO Clinical Practice Guidelines²

Two key strategies for mitigation of oral mucosal injury before and during treatment

- Maintenance of optimal nutritional support
- Daily oral hygiene

Complex, multifactorial pathogenesis of mucositis



Nutritional consequences of mucositis

- All patients should be screened for
 - Nutritional risk
 - Swallowing difficulties, to initiate enteral feeding early

Oral glutamine - supportive measure to prevent and treat mucositis

Role of glutamine in the prevention and treatment of mucositis⁶

- Glutamine depletion in cancer patients over time
- Adequate supply of glutamine is essential for optimal function of rapidly dividing cells such as epithelial cells and lymphocytes
- Glutamine deficiency might enhance tissue damage caused by RT and CT

Early nutrition intervention to diminish treatment toxicities

Nutritional support – important part of mucositis management

- Less severe oral mucositis in patients meeting their protein-related goals⁹
- Lesser treatment interruptions for toxicity (e.g. mucositis) by early nutrition intervention¹⁰

Significant decrease in severity of mucositis by oral glutamine



Double-blind, randomized, placebo-controlled trial in 40 patients with locally advanced head and neck cancer undergoing chemoradiotherapy (CRT). Intervention: 3 x 10 g oral glutamine/d throughout the CRT course Control: placebo



Oral glutamine supplementation initiated before CT and/or RT at a maximum dose of 30 g/d:

- significantly reduced mean grade 2, 3, 4 mucositis
- trend to reduced duration, time of onset and maximum grade of mucositis
 in a systematic review⁸



Oral glutamine supplementation may support anticancer treatment by reducing frequency, severity and duration of mucositis.⁸

Less treatment interruptions in patients with prophylactic percutaneous endoscopic gastrostomy (PEG)



Cumulative duration of interruption for toxicity

Modified from Assenat E et al.¹¹

Retrospective monocenter study in 139 consecutive patients with stage III-IV head and neck squamous cell carcinoma receiving combined CRT.

Intervention: prophylactic PEG before CRT and early nutrition support $\ensuremath{^*}$

Control: dietary counseling (oral supplements, PN when oral intake was not sufficient), no PEG

* immediate start of enteral feeding prior to the treatment in patients who met malnutrition criteria or when oral intake was less than 60% as compared with before treatment

Prophylactic PEG insertion and nutrition support before beginning RT/CT in patients with head/neck, thoracic and upper aerodigestive cancer is associated with significant

- reduction of weight $\mathsf{loss}^{\mathsf{10}}$ or improved nutritional status^{\mathsf{11}}
- decrease in treatment interruptions^{10,11}
- reduction in unplanned hospitalisation¹⁰ and shorter duration of hospitalisation¹¹
- improvement in quality of life at six months follow-up visit¹²

Clinical evidence shows the importance of early nutritional support in patients at high risk of treatment-related mucositis.¹⁰⁻¹²

Prevention and treatment of mucositis by supportive nutrition

Guidelines strongly recommend adequate nutritional support in patients with mucositis^{2,13}

Nutrition intervention according to severity of mucositis¹⁴



* consider supplemental parenteral nutrition (PN), if necessary

Tube feeding*

see product overview

Guideline recommendations: ESPEN guidelines on nutrition support in cancer¹³

Ensuring adequate nutritional intake

ONS

see product overview

"We recommend that during radiotherapy (RT) – with special attention to RT of the head and neck, thorax and gastrointestinal tract – an adequate nutritional intake should be ensured primarily by individualized nutritional counseling and/or with use of oral nutritional supplements (ONS), in order to avoid nutritional deterioration, maintain intake and avoid RT interruptions." (STRONG)



Use of tube feeding

"We recommend enteral feeding using nasogastric or percutaneous tubes (e.g. PEG) in radiation-induced severe mucositis or in obstructive tumors of the head-neck or thorax." (STRONG)

Dedicated support of your patients with mucositis

To maintain nutritional status and avoid treatment interruptions during RT/CT

Grade	Product	Product features	Indication
1 2 3 4	Kabi Glutamine	 Oral glutamine supplement (instant powder) Neutral flavour Flexible for use with various foods and drinks 	For the dietary manage- ment of patients in need of high glutamine due to CT or RT induced mucositis
1 2	Supportan DRINK	 ONS high in EPA: 2 g EPA per recommended daily dosage of 400 ml Meets the special needs of oncological patients 	For patients with pain and swallowing difficulties due to mucositis; need for liquid diet
1 2	Fresubin 3.2 kcal DRINK	 Low volume high-caloric, high-protein ONS: 125 ml bottle contains 400 kcal and 20 g protein For good compliance due to reduced volume 	For patients with pain and swallowing difficulties due to mucositis; need for liquid diet
1 2	Fresubin 2 kcal DRINK Fresubin 2 kcal Fibre DRINK Fresubin 2 kcal Crème	 High-caloric, high-protein ONS: Available as drink or semi- solid nutritional supplement with a creamy consistency With prebiotic fibre/without fibre 	For patients with pain and swallowing difficulties due to mucositis; need for texture modified or liquid diet
3	Supportan	 Tube feed high in EPA from fish oil: 2 g EPA per 500 ml bag Meets the special needs of oncological patients 	For patients with existing or expected severe swallowing difficulties due to severe mucositis
3	Fresubin 2 kcal HP Fresubin 2 kcal HP Fibre	 High-caloric, high-protein tube feed: 1000 kcal and 50 g protein per 500 ml bag Available with prebiotic fibre/ without fibre 	For patients with existing or expected severe swallowing difficulties due to severe mucositis



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