

# Nutritional and Pharmacologic Support in Patients with Pancreatic Cancer

Renata Dobrila Dintinjana<sup>1</sup>, Tina Guina<sup>2</sup> and Željko Krznarić<sup>3</sup>

<sup>1</sup> Gastroenterology Department, University Hospital Center »Rijeka«, Rijeka, Croatia

<sup>2</sup> School of Medicine, University of Rijeka, Rijeka, Croatia

<sup>3</sup> Department of Clinical Nutrition, University Hospital Center »Zagreb«, Zagreb, Croatia

## ABSTRACT

*The aim of our study was to assess whether the influence of nutritional support, consisting of counseling, enteral liquids support and pharmacologic support, can slow down weight loss and whether the change in weight has the impact on the performance status in our patients. In our study 44 patients with pancreatic cancer were included – 26 males (mean age 69 years ± 2.4 years) and 18 females (mean age 63 ± 3.2 years). Metastatic disease was found in 21 patients, 15 patients had liver metastasis. Locally advanced disease was found in 24 patients and metastatic and locally advanced disease in 17 patients. Surgery was performed in 34 patients. Forty four (100%) patients underwent nutritional counseling, 33 of them (75%) took supplemental enteral feeding and 44 (100%) took megestrol acetate 400 mg per a day. The patients were followed up during 8 weeks during 5 visits. At first visit we took initial nutritional status of patients. Appetite loss, weight gain and Karnofsky performance status were monitored at every visit. All patients were treated with gemcitabine for a 7 week period. Results: NTS score at initial visit in 44 patients (100%) was ≥ 5. Using nutritional counseling, enteral food substitution and pharmacological support, weight gain was observed in 61.1% patients and appetite improved. Average KPS mostly improved after first month of therapy while after two months was again at the basal level. With nutritional counseling, supplemental feeding and pharmacologic support weight loss in our patients slowed down and appetite improved. Despite of that, Karnofsky Performance Status didn't change significantly, reflecting the impact of the disease itself and chemotherapy procedures to the patient's condition. We can conclude that nutritional and pharmacological support can temporarily stop weight loss and improve appetite, social life and quality of life in those groups of patients but have no implications on patients KPS and course of their disease.*

**Key words:** pancreatic cancer, nutritional support, pharmacologic support

## Introduction

Approximately 200 000 patients die of pancreatic cancer worldwide annually. Pancreatic cancer represents the fourth leading cause of cancer-related mortality. Despite of intensive research, etiology of pancreatic carcinoma remains largely unknown but risk factors thought to be associated with pancreatic cancer include smoking, chronic pancreatitis and hereditary cancer (1,2). It is usually diagnosed late; more than 80% of patients have macroscopic disseminated disease at the time of diagnosis. Curative surgery requires specialized expertise found in limited centers in which resection rate is still under 50%. The tumor shows high level of resistance to all cancer treatment modalities<sup>1,2</sup>.

Pancreatic cancer has the highest incidence of cachexia compared to other tumor entities (more than 80% of cases)<sup>3</sup>. Tumor growth is associated with profound metabolic and neurochemical alterations that lead to the onset of anorexia-cachexia syndrome. This syndrome has a large impact on morbidity, mortality and patient's Quality of Life<sup>3,4</sup>.

The process appears to be mediated by circulating catabolic factors, either secreted by the tumor alone or in association with host-derived factors such as tumor necrosis factor  $\alpha$  (TNF $\alpha$ ), interleukins (IL-1, IL-6), interferon  $\gamma$  (INF $\gamma$ ), leukemia inhibitory factor (LIF), proteolysis-inducing factor (PIF) and lipid mobilizing factor (LMF)<sup>3-5</sup>.