

# Features of nutritional support in patients with mild and moderately severe acute pancreatitis

Serhii Chuklin, Serge Chooklin, Gennadii Shershen  
Regional Clinical Hospital, Lviv, Ukraine

## BACKGROUND

Nutritional support is an important factor in the treatment of acute pancreatitis patients. However, the optimal timetable for restoring oral intake is almost not studied. The nutritional support with appropriate nutritional supplements is a key element for limiting local inflammation and preventing or treating pancreatitis-associated complications.

## MATERIALS AND METHODS

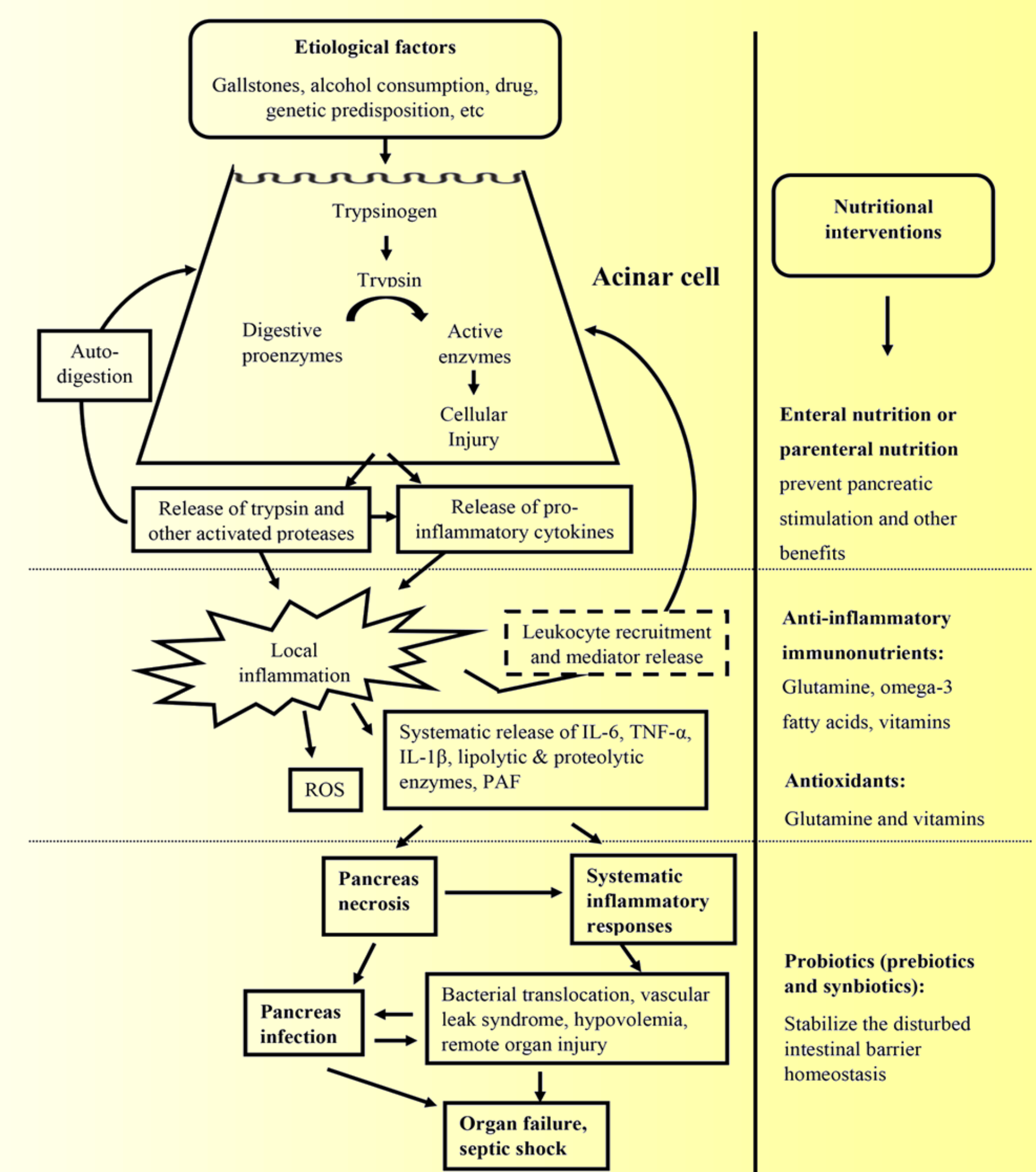
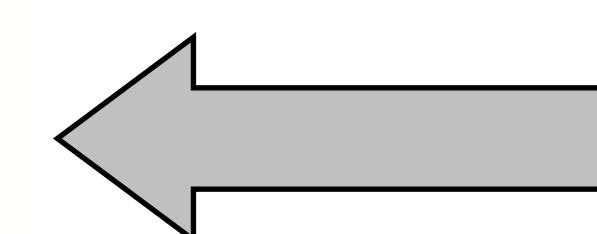
We examined 51 patients with mild acute pancreatitis (MAP). In 25 patients, an early oral refeeding (EORF) was used when patients experienced hunger, and 26 patients received routine oral refeeding (RORF) after pain disappeared and normalized pancreatic enzymes serum levels. Twenty two patients with a moderately severe acute pancreatitis (MSAP) were recruited: 11 received study feeds (Nutricomp Energy + fish oil 3 g/day for 5 days) via nasogastral tube and 11 received control feeds (Nutricomp Energy).

Tab. 1: Patients characteristics (Mean values±SD and frequencies)

Parameters	Groups			
	MAP		MSAP	
	EORF	RORF	NE + FO	NE
Sex (male/female)	22/3	18/8	8/3	9/2
Age (years)	41,16±13,38	45,50±12,83	41,16±13,38	45,50±12,83
Etiology				
alcoholic AP	21 (84%)	19 (73,1%)	10 (90,9%)	9 (81,8%)
biliary AP	3 (12%)	5 (19%)	-	-
idiopathic AP	1 (4%)	2 (7,9)	1 (9,1%)	2 (18,2%)
p-Amylase (IU/l)	549,04±494,52	684,72±578,74	549,04	684,72
Lipase (IU/l)	726,11±634,79	568,82±313,31	726,11	568,82

NE—Nutricomp Energy; FO—Fish oil; EORF—Early oral refeeding; RORF—Routine oral refeeding

Parameters	Groups	
	EORF	RORF
Days before starting the feeding	2,48±1,08	3,12±0,71
Length of stay (days)	7,12±3,11	9,23±1,73
Relapse of pain (%)	3 (12)	1 (3,85)
Transient abdominal distension (%)	3 (12)	2 (7,69)
Transient increasing of amylase (%)	2 (8)	0 (0)
Transient increasing of lipase (%)	2 (8)	0 (0)
CRP (mg/l)	24,63±21,58	73,82±44,46
APACHE II	4,53±0,62	4,76±0,66



Li-Long, Li Jiahong, Shamoan Muhammad, Bhatta Madhav, Sun Jia. Advances on Nutrition in Treatment of Acute Pancreatitis. Frontiers in Immunology (2017) 8:763. doi:10.3389/fimmu.2017.00762

Parameters	Groups	
	NE + FO	NE
Length of stay (days)*	15	19
Relapse of pain (%)	1 (9)	1 (9)
Transient abdominal distension (%)	2 (18)	1 (9)
CRP (mg/l)	1st day	205,99
	3rd day	155,67
	7th day*	91,50
	14th day*	58,02

Tab. 2: Length of stay, relapse of pain, transient abdominal distension and changes of CRP level during first 14 days (Mean values and frequencies) by patients with MSAP

Tab. 3: Days before starting the feeding, length of stay, relapse of pain, transient abdominal distension, transient increasing of amylase and lipase, level of CRP and APACHE II score (Mean values and frequencies) by patients with MAP

## RESULTS

Before starting the diet in the EORF group, serum concentrations of pancreatic amylase and lipase were elevated. There was a significant difference in the duration of the hunger strike after hospitalization between the EORF group and the RORF group. In addition, there was a significant decrease in the total number of days of hospitalization in the EORF group compared with the group RORF. There were no differences in the relapse of abdominal pain, abdominal distension, elevated serum levels of pancreatic enzymes, and severity of the condition of patients between two groups in mild and moderately severe acute pancreatitis. All patients who developed relapse of pain and transient abdominal distension did not require a change in nutrition regimen. The activity of inflammation at the concentration of C-reactive protein significantly earlier was leveled in patients from the group of EORF and Nutricomp Energy + fish oil group. All patients were discharged according to standardized criteria.

## CONCLUSION

In patients with mild AP, early onset of oral refeeding, which is safe, promotes a faster reduction of the inflammatory process, reduces the timing of hospitalization. In patients with moderately severe AP early onset of ω-3 PFA promotes a faster reduction of the inflammatory process, reduces the timing of hospitalization.