



Clinical Nutrition News

Kidney Disease at ESPEN 2010

Clinical Nutrition News: Kidney Disease at ESPEN 2010 is a brief update for health care professionals with a particular interest in the role of nutrition in the care of patients with kidney disease. This issue reports from the 32nd Congress of the European Society for Clinical Nutrition and Metabolism (ESPEN), which took place September 5th – 8th in Nice, France.

Nutrition for people with chronic kidney disease (CKD) emerged as a new focus at ESPEN 2010; speakers at an Educational Session addressed key questions about nutritional needs of people with CKD:

- What is the pathophysiology of protein-energy wasting in CKD?
- What are the nutritional goals for non-dialyzed CKD patients in stages 1-5 of disease?
- How do nutritional goals change when patients require chronic hemodialysis?

Dr Kamyar Kalantar-Zadeh (US) discussed state-of-the-art renal nutrition therapy in kidney disease at the Abbott Nutrition Night symposium in Nice, France. For a review of his lecture, see *Clinical Nutrition News*, September 2010.

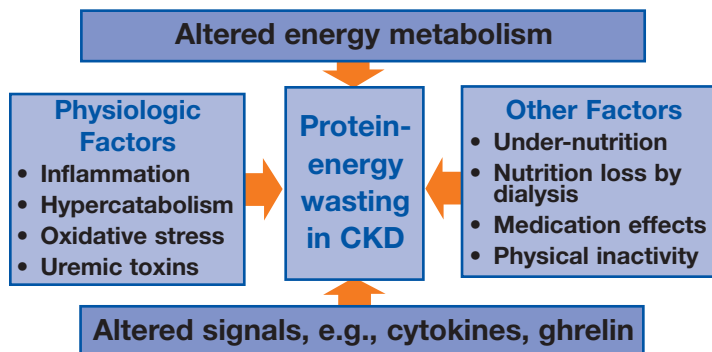
Pathophysiology of protein-energy wasting in CKD

Malnutrition and muscle wasting occur commonly in people with CKD, and Dr Gianfranco Guarnieri (Italy) warned that healthcare professionals sometimes overlook opportunities to prevent and treat these conditions. To help raise awareness, the International Society of Renal Nutrition and Metabolism (ISRNM) recently defined *protein-energy wasting* (PEW, loss of body mass and fuel reserves); in the context of CKD or acute kidney injury, PEW is called kidney disease wasting.¹



32nd Congress of the European Society for Clinical Nutrition and Metabolism (ESPEN) in Nice, France, 5-8 Sept, 2010

Guarnieri explained how kidney disease wasting is rooted in abnormal energy metabolism that is associated with changes in central and peripheral control signals. Such changes impair nutrient intake and utilization by way of many contributing factors—*inflammation, catabolism, oxidative stress, uremia, anorexia, nutrient loss by dialysis or medication effects, and physical inactivity*. The end-result of protein-energy wasting is loss of physical function, lower quality of life, and higher risk of death. Better understanding of the mechanisms underlying protein-energy wasting in kidney disease is expected to open up new ways to tailor nutrition to counteract harmful changes.



Pathophysiology of kidney disease wasting

Nutritional management in chronic kidney diseases

In a call for attention to nutrition in people with CKD, Dr Bengt Lindholm (Sweden) noted that poor appetite, anorexia, malnutrition, and protein-energy wasting are common: anorexia exists in 50–60% of Stage 5 CKD patients and in 35–60% of dialysis patients.² Lindholm highlighted the association between anorexia and progressive kidney disease.² As appetite falls with decreasing kidney function in CKD, protein and energy intake drop off markedly. Specifically, protein-energy intake drops >80% as glomerular filtration rate (GFR) falls from 90 mL/min to 15 mL/min, possibly due to retention of appetite-depressant substances.² Hemodialysis can improve feeding behaviors, while kidney transplant can fully restore appetite.

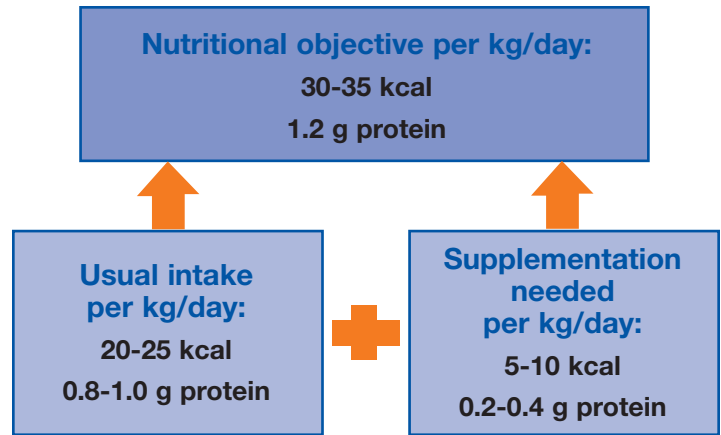
Food for Thought

Poor appetite, anorexia, malnutrition, and protein-energy wasting are common in CKD. Anorexia exists in 50–60% of Stage 5 CKD patients and in 35–60% of dialysis patients.²

Lindholm emphasized the need to identify and address feeding disorders in CKD patients, meet energy needs, and adjust protein intake to kidney function. He cited ESPEN guidelines that limit protein intake to 0.55-0.60 g protein/kg body weight/day to help slow decline of kidney function in pre-dialysis patients.³ Once dialysis begins, ESPEN recommends increasing protein intake to 1.2 to 1.4 g/kg BW/day, with even higher protein intake immediately following kidney transplantation.³ Supplemental nutrition, including high energy and/or high protein, is necessary to help overcome nutritional deficits in patients with CKD. Lindholm also noted promise for treatment with ghrelin, a newly discovered appetite stimulant, to facilitate such increased dietary intake.⁴



Dr Noël Cano, speaker, and Dr Rocco Barazzoni, moderator, at an Educational Session on Nutrition in Chronic Kidney Disease



Filling the nutritional gap for patients on chronic dialysis

Nutritional support in patients on chronic kidney dialysis

According to Dr Noël Cano (France), patients on hemodialysis are prone to nutritional shortfall if they do not get nutritional supplementation to meet their increased needs for energy and protein. In a classic French multi-center study, 62% of dialysis patients had at least 10% loss of lean body mass.⁵ Such a patient may need as much as 700 kcal added energy/day, including more than 25 g protein. These needs can be met by use of oral nutritional supplements (ONS) or intradialytic parenteral nutrition (IDPN). Cano and colleagues showed that ONS, particularly with formulations specific to patients with CKD, are equally effective as IDPN.⁶ ONS are easy to use and cost-effective, and are thus an optimal way to provide needed energy with high quality protein, while limiting intake of fluid and certain electrolytes (phosphorus, potassium, sodium).

References

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