Do patients with IBD have altered protein requirements?

Recommendation 7.

Protein requirements are increased in active IBD, and intake should be increased (to 1.2–1.5 g/kg/d in adults) relative to that recommended in the general population.

Grade of recommendation GPP – Strong consensus 96% agreement.

Recommendation 8.

The protein requirements in remission are generally not elevated and provision should be similar (about 1 g/kg/d in adults) to that recommended for the general population.

Grade of recommendation GPP – Strong consensus 100% agreement.

Commentary for 7 and 8.

A significant percentage of all patients with IBD develop a reduction in lean mass, and patients with CD are more prone to it. An increase in obesity over time is a new reality and sarcopenic obesity has become a challenge [70–72]. This may occur due to chronically poor or unbalanced dietary intake, increased rates of protein turnover, and gut loss of nutrients during phases of active disease with consequent malabsorption or from the effect of disease treatments [73,74]. Corticosteroids increase the net loss of protein in children [75] and adults [76] with CD. In contrast, the administration of elemental or polymeric feed as treatment of CD or as adjunctive nutrition support results in the reduction of proteolysis and acquisition of lean tissue in children and adults [77–80].

The postsurgical situation in CD can become an issue because of several reasons leading to different types of intestinal failure [81,82]. Monitoring of anthropometry or bioelectrical impedance analysis provides insight into which patients develop relative deficits in lean mass and therefore would benefit from nutritional supplementation [83].

There is no high-quality evidence that the daily protein needs of patients with IBD differ from those of healthy controls, but as discussed elsewhere, poor appetite and restricted dietary intake are commonplace [84]. In patients receiving steroids and/or with dietary restrictions or gut rest, enteral nutrition (EN) may provide beneficial effects on protein turnover without deleterious consequences on disease activity. There is no good evidence that the daily protein needs of patients with IBD in remission differ from those of healthy controls. The provision of 1 g protein for each kilogram of body weight is therefore reasonable. However, in active inflammation, the proteolytic, catabolic response justifies an increase in provision to 1.2–1.5 g/kg body weight [85,86].

Do patients with IBD have an altered micronutrient requirement?

Recommendation 9.

Patients with IBD should be checked for micronutrient deficiencies regularly, including in the remission phase, and specific deficits should be appropriately corrected.

Grade of recommendation GPP – Strong consensus 95% agreement.

Commentary.

Patients with IBD are vulnerable to micronutrient deficits due to gut loss from diarrhea, malabsorption, intestinal failure, and inadequate dietary intake from anorexia accompanying disease activity. Therefore, they should be checked for micronutrient deficiencies regularly, at least once per year, on a clinical level as well by laboratory measurements, when appropriate and available. When interpreting blood results of micronutrients and trace elements it is important to consider that many serum values, or markers of status, are positive or negative acute phase reactants. The reliability of the plasma micronutrient levels measurement in the presence of systemic inflammation remains questionable [87]. Serum levels rise or fall, as part of the inflammatory response, for example, ferritin, and copper increase but folate, selenium, and zinc decrease in inflammation [88,89]. In light of this, some authors have examined micronutrient status in patients in clinical disease remission and found deficits in a variety of micronutrients [90]. Furthermore, deficits may be present even in apparently well-nourished individuals [91]. A daily multivitamin supplement may correct most deficiencies but is no guarantee of adequacy, even over the long term; iron, zinc, and vitamin D are likely to require specific replacement regimens [92]. Cacoub et al. suggested a common definition of iron deficiency for patients with chronic inflammatory conditions to provide better monitoring and therapeutic approach [93]. Santucci et al. noted that 37% of patients with zinc proven deficiency remained deficient and 15% had developed a new zinc deficiency despite supplementation [92]. Some of the macronutrients like zinc are suggested as a potential predictor of the disease course [90]. Poor compliance, particularly in adolescents, is common with multivitamin supplements and patient education about the rationale behind their use is important [94]. The micronutrient plasma concentrations improved during EN therapy, but carotenoid concentrations decreased significantly [95]. These observations highlight the need for routine monitoring (perhaps annually) to screen for micronutrient deficiency despite limitations [96]. At times when nutrition support is offered then multivitamin and micronutrient supplements should also be offered to ensure an appropriately balanced nutritional intake and avoid the risk of refeeding syndrome [97]. Recent research has focused on vitamin D; it and its receptor may have some immunomodulatory properties, which further highlights the need for specific attention to micronutrient status in patients with IBD [98].

Is iron supplementation needed in IBD?

Recommendation 10.

Iron supplementation should be recommended in all patients with IBD when iron deficiency anemia is present. The goal of iron supplementation is to correct anemia and normalize iron stores.

Grade of recommendation B – Strong consensus 96% agreement.

Recommendation 11.

Oral iron should be considered as first-line treatment in patients with iron deficiency or mild anemia, whose disease is clinically inactive, and who have not been previously intolerant to oral iron.

Grade of recommendation B – Strong consensus 91% agreement.

Recommendation 12.

Intravenous iron should be considered as first-line treatment in patients with clinically active IBD, those with previous intolerance to oral iron, those with hemoglobin below 100 g/L, and patients who need erythropoiesis-stimulating agents.

Grade of recommendation B – Strong consensus 96% agreement.

Commentary for 10 to 12.

Anemia is considered the most frequent extraintestinal manifestation of IBD, usually complicating the course both in UC and CD. All patients with IBD regardless of their age should be assessed for low ferritin levels, reduced transferrin saturation, and the presence of anemia [99]. The major forms of anemia in IBD are iron deficiency anemia, anemia of chronic disease, and anemia of mixed origin [ECCO Anemia Statement 1A] [99]. Diagnostic criteria for iron deficiency depend on the level of inflammation. For laboratory screening, complete blood count, serum ferritin, and C-reactive protein should be used [ECCO Anemia Statement 1B]. For patients