Importance of Nutritional Assessment

The Importance of Early Diagnosis in Effective Nutrition Management

Nutritional assessment is typically defined as “a comprehensive approach to determining nutritional status using medical, nutritional, and medication histories; physical examination, anthropometric measurements and laboratory data.”

If nutritional risk screening reveals a patient being nutritionally at risk for malnutrition, a more in-depth evaluation of the causes of disease-related malnutrition should be conducted. Nutritional assessment is crucial to fully understand the patient’s condition and to develop a specific nutrition care plan.

Parameters of a Nutritional Assessment: What Physician Should Look For

Relevant assessment parameters should be evaluated in detail to assess the nutritional status and the risk for malnutrition. Biochemical parameters are useful, objective, and readily available for this assessment:

- **Albumin**: A tracking parameter for long-term interventions; direct negative correlation with mortality and rate of complications; liver function disorders, post-aggression metabolism, proteinuric nephropathy, protein-losing enteropathy. Nutrition deficit is detected only if protein deficiency already exists over a long time, due to long half-life of albumin. Albumin is not very sensitive in malnutrition, because it is also low in acute stress, infections, surgery and polytrauma.
- **Transferrin**: A tracking parameter for short-term interventions; no clear correlation with outcome; also low in anemia, liver diseases and certain antibiotic therapies. Transferrin may be a better and more sensitive reflection of nutritional status compared to albumin.
- **Pre-albumin (transthyretin) (TTR)**: A tracking parameter for short-term monitoring of nutritional interventions. Pre-albumin may be a better and more sensitive reflection of nutritional status compared to albumin, and allows identification of malnutrition at an early stage.
- **Retinol-binding protein (RBP)**: A tracking parameter which is increased in limited
kidney function and is also used for identification of malnutrition at an early stage. However, it is only suitable only for short-term monitoring.

Other relevant assessment parameters, which should be evaluated in detail, include disease and treatment-related risk factors such as nausea, dehydration, diarrhea, acute infections; social and psychosocial risk factors such as depression and social isolation; and nutrition-related risk factors such as allergies, anthropometric aspects and restrictive diets.

**Subjective Global Assessment**

Subjective Global Assessment (SGA) is a nutritional non-invasive assessment tool that has been found to be highly predictive of nutrition-associated complications. SGA considers not only alterations in body composition, but also changes in physiological function. The SGA should be performed considering the following factors: 1, 2, 6, 7, 8, 9

- Clinical considerations of disease-related effects: e.g., the impact of surgery, treatment, medication etc.
- Physical signs of malnutrition: e.g. their physical and psychosocial state, loss of subcutaneous fat or muscle mass, breathlessness, mobility, edema, poor wound healing, etc.
- Dietary aspects: e.g., recent and past diet and fluid history, influencing factors, nutritional requirements.
- Anthropometric measurements: e.g., body weight and composition (BMI, muscle mass, body water, fat and fat-free mass), as well as hand grip strength.
- Biochemical and hematological markers: e.g., deviations from normal results regarding a full blood count, urea and electrolytes, liver and renal function tests.

If a patient receives an SGA “A” rating, they are considered well nourished. An SGA “B” rating indicates a moderately malnourished patient. And an SGA “C” rating reflects a severely malnourished patient.