Reviewer's report

Title: The prevention and reduction of weight loss in an acute tertiary care setting: Protocol for a pragmatic stepped wedge randomised cluster trial (the PRoWL project)

Version: 2 Date: 28 January 2013

Reviewer: Larry H H Bernstein

Reviewer's report:

Discretionary:

Current Nutrition & Food Science, 2009, 5, 71-74 71
1573-4013/09 $55.00+.00 © 2009 Bentham Science Publishers Ltd.
Transthyretin and the Systemic Inflammatory Response
Larry H. Bernstein*
President, Triplex, Trumbull, CT 06611, USA

Abstract: Background: Transthyretin has been widely used as a biomarker for identifying protein-energy malnutrition (PEM) and for monitoring the improvement of nutritional status after implementing a nutritional intervention by enteral feeding or by parenteral infusion. This has occurred because transthyretin (TTR) has a rapid removal from the circulation in 48 hours and it is readily measured by immunometric assay. Nevertheless, concerns have been raised about the use of TTR in the ICU setting, which prompts a review of the actual benefit of using this test in a number of settings. TTR is easily followed in the underweight and the high risk populations in an ambulatory setting, which has a significant background risk of chronic diseases. It is sensitive to the systemic inflammatory response syndrome (SIRS), and needs to be understood in the context of acute illness to be used effectively. There are a number of physiologic changes associated with SIRS and the injury/repair process that will affect TTR and will be put in context in this review. The most important point is that in the context of an ICU setting, the contribution of TTR is significant in a complex milieu.

The Transthyretin Inflammatory State Conundrum
Larry H. Bernstein

Current Nutrition & Food Science, 2012, 8, 00-00

Keywords: Tranthyretin (TTR), systemic inflammatory response syndrome (SIRS), protein-energy malnutrition (PEM), C- reactive protein, cytokines, hypermetabolism, catabolism, repair.
There are a number of physiologic changes associated with SIRS and the injury/repair process that will affect TTR and will be put in the context of this
review. In the context of an ICU setting, the contribution of TTR is significant. Despite the complexity of the situation, TTR is not to be considered a test “for all seasons”. In the context of age, prolonged poor meal intake, chronic or acute illness, TTR needs to be viewed in a multivariable lens, along with estimated lean body mass, C-reactive protein, the absolute lymphocyte count, presence of neutrophilia, and perhaps procalcitonin if there is remaining uncertainty. Furthermore, the reduction of risk of associated complication requires a systematized approach to timely identification, communication, and implementation of a suitable treatment plan.

Manuscript Number: NUT-12-8802 (31 May 2012 # 1-9)
Title: The Automated Malnutrition Assessment
Article Type: Original Article

Keywords: Network Algorithm; unsupervised classification; malnutrition screening; protein energy malnutrition (PEM); malnutrition risk; characteristic metric; characteristic profile; data characterization; non-linear differential diagnosis
Corresponding Author: Dr Larry Howard Bernstein, MD
First Author: Gil David, PhD
Order of Authors: Gil David, PhD; Larry Howard Bernstein, MD; Ronald R Coifman, PhD

We propose an automated nutritional assessment (ANA) algorithm that provides a method for malnutrition risk prediction with high accuracy and reliability. The problem of rapidly identifying risk and severity of malnutrition is crucial for minimizing medical and surgical complications. These are not easily performed or adequately expedited. We characterized for each patient a unique profile and mapped similar patients into a classification. We also found that the laboratory parameters were sufficient for the automated risk prediction.

Manuscript Number: CLB-12- (in press)
Title: The Increasing Role for the Laboratory in Nutritional Assessment
Article Type: Editorial
Section/Category: Clinical Investigation
Accepted 22 May 2012. www.elsevier.com/locate/clinbiochem.
Clin Biochem (2012), doi:10.1016/j.clinbiochem.2012.05.024
Keywords: Protein Energy Malnutrition; Nutritional Screening; Laboratory Testing
Corresponding Author: Dr. Larry Howard Bernstein, MD
Corresponding Author's Institution: New York Methodist Hospital
First Author: Larry Howard Bernstein, MD
Order of Authors: Larry Howard Bernstein, MD

Abstract: The laboratory role in nutritional management of the patient has seen remarkable growth while there have been dramatic changes in technology over the last 25 years, and it is bound to be transformative in the near term. This editorial is an overview of the importance of the laboratory as an active participant in nutritional care

Manuscript Number: CLB-12- (in press)
Title: The Increasing Role for the Laboratory in Nutritional Assessment
Article Type: Editorial
Section/Category: Clinical Investigation
Accepted 22 May 2012. www.elsevier.com/locate/clinbiochem.
Clin Biochem (2012), doi:10.1016/j.clinbiochem.2012.05.024
Keywords: Protein Energy Malnutrition; Nutritional Screening; Laboratory Testing

Corresponding Author: Dr. Larry Howard Bernstein, MD
Corresponding Author’s Institution: New York Methodist Hospital

Abstract: The laboratory role in nutritional management of the patient has seen remarkable growth while there have been dramatic changes in technology over the last 25 years, and it is bound to be transformative in the near term. This editorial is an overview of the importance of the laboratory as an active participant in nutritional care

-The Automated Nutrition Score is a data-driven extension of continuous quality improvement.
Larry H Bernstein
ICID: 939934

- Transthyretin as a marker to predict outcome in critically ill patients.
Arun Devakonda, Liziamma George, Suhail Raoof, Adebayo Esan, Anthony Saleh, Larry H Bernstein
ICID: 939927
Article type: Original article

- The systemic inflammatory response syndrome C-reactive protein and transthyretin conundrum.
Larry H Bernstein
A simplified nutrition screen for hospitalized patients using readily available laboratory and patient information.

- Linda Brugler, Ana K Stankovic, Madeleine Schlefer, Larry Bernstein

The role of visceral protein markers in protein calorie malnutrition.

- Linda Brugler, Ana Stankovic, Larry Bernstein, Frederick Scott, Julie O'Sullivan-Maillet


- LH Bernstein, Y Ingenbleek

MUST is validated, and extensively used in the UK. Familiarity with it is a distinct advantage.

There is significant literature and ASPEN Congress discussions about the problems with weighing patients to get the BMI. This is better than obtaining lean body mass using anthropometrics.

I don't find any mention of using the laboratory to follow patient progress. This means that a major potential team member is not represented. Quantitative quality controlled information from the laboratory can give a measure of metabolic status. But there is no mention of transthyretin, C-reactive protein, homocysteine, or eGFR anywhere in the protocol.

Patient who are not in the ICU may be excluded, but these patients would have
died in hospital years ago, and many patients in non-ICU beds are high risk patients who in times past have been ICU patients. They are rightfully the important targets of the study.

Is it also possible that the medical staff will not be on board for the success of this well designed program.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

Do you have any non-financial competing interests in relation to this paper?

I provided discretionary references that can be used to lend a perspective for modifications and/or on the earlier outcome study by Linda Brugler (and by Elia Mears).

These are not financial conflicts. They are not really competing interests.