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Stability and assessment of amino acids in parenteral nutrition solutions

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Highlights

- Review of the degradation of amino acids in parenteral nutrition solutions.
- Analytical methods for the determination of amino acids and their related substances are summarized.
- Interaction of amino acids and the components of parenteral nutrition solutions are discussed.

Abstract

Sterile amino acid solutions are applied in medical care as part of Total Parenteral Nutrition systems. Typical formulations consist of variable admixtures of essential and non-essential amino acids together with carbohydrates, electrolytes, vitamins, trace element solutions and lipid emulsions. The complexity of these formulations gives rise to stability and compatibility reflections. This review focuses on amino acid stability in pure amino acid solution and name methods of assessment. Incompatibilities of amino acids with the other ingredients are matter of concern in clinical practice and evaluated for relevance.