Evaluating Insulin Lispro Use in Non-Diabetic Patients in a Rehabilitation Setting

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Abstract

Purpose: Stress-induced hyperglycemia (SIH) is a frequent clinical finding in hospitalized patients without a pre-existing diagnosis of diabetes. In the specialized environment of inpatient rehabilitation, uncontrolled glycemia can significantly hinder physical recovery, increase infection risks, and prolong lengths of stay. This project aimed to evaluate the role of insulin lispro in managing SIH in non-diabetic patients, assess the associated clinical benefits and risks, and develop pharmacist-driven recommendations for optimized glycemic management.

Methods: This study was a retrospective, single-center chart review conducted at a 40-bed inpatient rehabilitation facility (IRF). The study period spanned from November 2025 through February 14th, 2026. Data was collected from patients receiving insulin therapy to determine the primary outcome: The distribution of hyperglycemia etiologies. Secondary outcomes included corticosteroid-associated hyperglycemia patterns, the incidence of hypoglycemia and general insulin utilization trends.

Results: Analysis of 52 patient records revealed that, Type 2 Diabetes Mellitus (T2DM) remained the predominant cause of hyperglycemia (67.3%), a significant portion was attributed to corticosteroid-induced hyperglycemia (19.2%) and SIH in non-diabetic patients (9.6%), Corticosteroid-associated hyperglycemia was primarily linked to high-dose prednisone (60%) and dexamethasone (40%). While insulin lispro effectively improved glycemic control, identified risks included hypoglycemia and increased monitoring burdens, particularly transient cases.

Conclusions: Insulin lispro is a viable tool for managing SIH in the rehabilitation setting, provided that the therapy is individualized. Pharmacists are essential in navigating the fine line between glycemic control and hypoglycemia, particularly during the transition from acute care to rehabilitation. Development of standardized protocols may improve patient safety and rehabilitation outcomes.

Keywords: Stress-induced hyperglycemia; insulin lispro; non-diabetic patients; inpatient rehabilitation; glycemic control; corticosteroid-induced hyperglycemia; hypoglycemia risk; pharmacist interventions