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Rebound Hypoglycemia Post Hemodialysis Related to Intradialytic Insulin Titration

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Problem: How can nurses manage the care for preventing hypoglycemia for patients on insulin drip while on hemodialysis (HD)?

Background: Because of the dextrose content of the dialysate, the patient has a false glucose level during dialysis. The need of up titration in insulin infusion during HD on an ESRD patient who has history of diabetes greatly increases. A safety concern of patients becoming hypoglycemic after termination of HD was brought up by an experienced nurse. Does insulin get cleared out by dialysis machine? Why is there a need to increase in insulin infusion in order to maintain a certain blood glucose level on a critical care need patient who needs insulin infusion therapy? What serum dextrose level is considered safe for ESRD patients who are also on insulin drips? Will the blood glucose level drops when HD is terminated?

Methodology: Literatures reviewed. Dialysate contains 200mg/dL dextrose. It increases the blood sugar level during HD treatment, which increases the need to titrate up in insulin infusion. Portion of insulin gets dialyzed out and increases the need to go up on insulin drip. Patients tend to have hypoglycemia post HD due to endogenous insulin surge (Jamaludin et al., 2015). The study by Dickerson et al, (2014) indicates that patients with ESRD on dialysis will benefit from less stringent blood sugar control algorithm to prevent hypoglycemic episodes.

Outcomes/Implications: Continue hourly glucose check per protocol. HD nurses will do a 30-minute glucose check after the patient is off HD machine while awaiting transportation back to patient's room. A nurse will accompany patients back to their room. Give face to face handoff report to the primary nurse. Report to physician any abnormal blood glucose level. A proposal was approved with nephrologist and endocrinologist to not increase insulin drip in the orders while patient is on HD to minimize risk of rebound hypoglycemia.

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