Wilkes University Nesbitt School of Pharmacy

Impact of Pharmacist Monitoring of Serum Triglycerides for Critically Ill Patients Receiving Propofol

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Purpose

Critically ill patients receiving propofol for sedation in the intensive care unit (ICU) who develop hypertriglyceridemia are at a greater risk for complications.

A protocol that allows pharmacists to order serum triglyceride concentrations for ICU patients receiving propofol for sedation, was implemented at our institution.

The objective of this study was to determine if there was improvement in appropriate monitoring of serum triglyceride concentrations in ICU patients receiving propofol for sedation after implementation of the protocol.

Methods

Single-center pre- post-intervention retrospective cohort study conducted at Wilkes-Barre General Hospital, Wilkes-Barre, Pennsylvania.

Data was collected using the institution's electronic medical record and pharmacy data management systems.

Patients included those 18 years of age or older admitted to the ICU between July 1, 2018 and June 30, 2019 who received propofol for sedation.

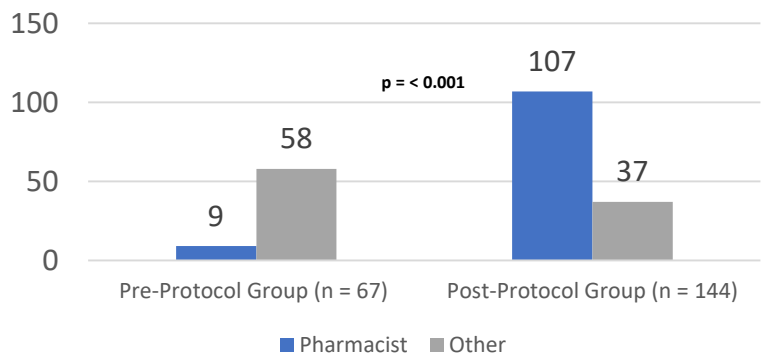
Protocol for pharmacist triglyceride monitoring was implemented January 10, 2019. Patients were divided between those started on propofol before January 10, 2019 and after.

Statistical analyses were conducted using IBM SPSS Statistics version 23.

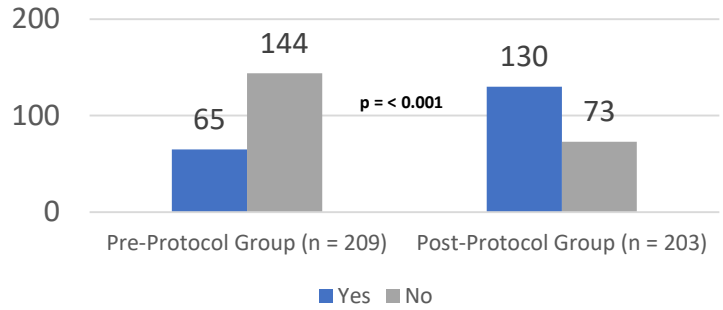
Results

Characteristic	Pre-Protocol Group (n = 209)	Post-Protocol Group (n = 203)	p Value
Mean ± (Standard Deviation)			
Age (years)	64.1 (18)	64.2 (18)	0.941
Height (cm)	169.3 (16)	169.3 (13)	0.965
Weight (kg)	83.5 (25)	84.4 (28)	0.715
Length of ICU Stay (days)	11.4 (10)	11.0 (11)	0.713
Hours on Propofol	96.6 (105)	92.7 (110)	0.710
Number (%) of Patients			
Male	59.3% (124)	57.1% (116)	0.690
Race (white)	93.8% (196)	95.1% (193)	0.699
Mechanical Ventilation	92.8% (194)	91.6% (186)	0.715
Outpatient Statin Use	41.6% (87)	46.8% (95)	0.321

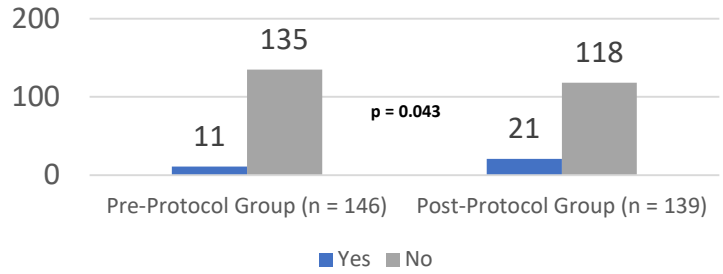
Number of Pharmacist Ordered Triglyceride Concentrations



Number of Patients Who Had At Least One Triglyceride Level Ordered



Baseline was Obtained if Propofol was Continued for Greater than 24 Hours



Time Between Propofol Ordered and First Triglyceride Concentration Ordered		
Pre-Protocol Group (n = 209)	2.6 days	p = 0.006
Post-Protocol Group (n = 203)	1.3 days	

Conclusion

The implementation of a protocol allowing pharmacists to order serum triglyceride levels in ICU patients receiving propofol for sedation significantly improved appropriate monitoring of serum triglycerides. Additional studies should be conducted to determine the impact of such a protocol on important patient outcomes such as the incidence of pancreatitis, duration of mechanical ventilation and length of stay.