



Propofol infusion syndrome (PIS) is a potentially lethal complication of propofol marked by rhabdomyolysis, metabolic acidosis, and cardiac arrhythmias or collapse. The objective of this study was to determine the effectiveness of a prospective screening protocol to prevent PIS” Schroepfel et al (2018).

Abstract:

Propofol infusion syndrome (PIS) is a potentially lethal complication of propofol marked by rhabdomyolysis, metabolic acidosis, and cardiac arrhythmias or collapse. The objective of this study was to determine the effectiveness of a prospective screening protocol to prevent PIS. All trauma patients admitted who received propofol as a continuous infusion were prospectively screened from November 1, 2013 to December 31, 2015. Variables studied included demographics, injury severity, laboratory values, infusion rates, and mortality. Serum creatine phosphokinase (CPK) and lactate were drawn daily. Propofol was stopped for a positive screen defined as an increase in CPK to greater than 5000 IU/L or lactate greater than 4 mmol/L. Positive and negative cohorts were compared. Two hundred and twenty-five patients met the inclusion criteria and 12 patients (5.3%) had propofol stopped because of elevated CPK. No differences were identified in demographics, transfusions, injury severity, hospital length of stay, or propofol dose. The positive screened group had longer intensive care unit length of stay (20 vs 13 days; $P = 0.002$) and increased vent days (14.5 vs 10 days; $P = 0.008$). Max serum osmolality (334 vs 305 mosm/kg; $P = 0.049$) and max serum CPK

(6782 vs 1058 IU/L; $P < 0.0001$) were higher in the positive cohort. No cases of PIS occurred, and mortality (16.7 vs 15.5%; $P = 0.999$) was not different between the cohorts. The screening protocol was effective in eliminating PIS. Serial CPK evaluations provided an effective screening tool and serum lactate can be dropped from screening.

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Reference:

Schroepel, T.J., Clement, L.P., Barnard, D.L., Guerro, W., Ferguson, M.D., Sharpe, J.P., Magnotti, L.J., Croce, M.A. and Fabian, T.C. (2018) Propofol Infusion Syndrome: Efficacy of a Prospective Screening Protocol. *The American Surgeon*. 84(8), p.1333-1338.

