The measurement of international normalization ratio (INR) may be done by venous blood draw and use of a standard lab, or by fingerstick, using a point of care (POC) device such as the CoaguChek XS® (Roche Diagnostics), and the CoaguChek XS® has been validated to meet the International Organization for Standardization (ISO) performance requirements” Richter et al (2016).

Abstract:

BACKGROUND: The measurement of international normalization ratio (INR) may be done by venous blood draw and use of a standard lab, or by fingerstick, using a point of care (POC) device such as the CoaguChek XS® (Roche Diagnostics), and the CoaguChek XS® has been validated to meet the International Organization for Standardization (ISO) performance requirements.

OVERVIEW: The goal of this study was to determine a correction factor for CoaguChek XS INR levels to a predicted venipuncture (VP) INR level.
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METHODS: At the end of an anticoagulation clinic visit when a patient had an INR greater than or equal to 4, two INR results existed, that from the Coaguchek XS® meter and a venipuncture INR from the lab. The data were then discreetly recorded as a quality control for our clinic. The data were analyzed for possible significant trends between the two types of INR results.

RESULTS: The equation that was determined to be the best fit to the data was $0.621 \times \text{POC} + 0.639 = \text{estimated VP}$. The overall root mean square error (MSE) for the calculated correction was a 0.44 INR. The root mean square errors were 0.41 and 0.58 for the 4 to 5.9 and 6 to 7.9 POC INR groups, respectively.

CONCLUSION: The calculation that was derived in this study is not a surrogate for venipuncture INR in this clinic. However, the estimation of the INR may be useful clinically in guiding decision making in the future. (INR, Point of Care, Anticoagulation, Hematology).

Reference:


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