

Preventice Solutions Presents Monitoring Algorithm Validated with Clinical Data

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Minneapolis - At Heart Rhythm 2018, the Heart Rhythm Society's 39th Annual Scientific Sessions in Boston, May 9-12, 2018, Preventice Solutions will showcase practical applications of machine learning and artificial intelligence (AI) in wearable cardiac monitoring technology. Clinical data will be presented in a poster validating the proprietary algorithms that are part of the BodyGuardian® Heart system, which is designed to create a constant connection between patients and their healthcare team. The poster is authored by Ben Teplitzky, PhD, and Mike McRoberts, from the Preventice data science team, and Suneet Mittal, MD, FHRS, from Valley Medical Group.

Preventice Solutions is presenting real-world validation of the unique algorithms used in the BodyGuardian® Heart system to detect ventricular ectopic beats (VEBs), which are a sub-category of abnormal heart contractions that originate from the ventricles. For some patients, these beats signify a potential life-threatening and treatable cardiac irregularity. The proprietary algorithm, when used with mobile cardiac telemetry technology, empowers physicians and healthcare providers with valuable information regarding the occurrence and regularity of VEBs.

In the study, algorithm validation was performed using the MIT-BIH arrhythmia database and also using real-world data collected from nearly 2,000 BodyGuardian® Heart patients. Results demonstrate that this proprietary classification model has sensitivity and specificity higher than any previously published fully automated algorithms and demonstrates key short-comings associated with validation performed using only the MIT-BIH arrhythmia database.

"In my opinion, clinicians do not always appreciate the difficulty that ambulatory ECG monitoring systems have in accurately differentiating VEBs from normal sinus rhythm," said Dr. Mittal. "The application of deep learning to large real-world ECG datasets provides a unique opportunity to enhance the diagnostic accuracy of the algorithms in these ECG monitoring devices."

Dr. Mittal has received no compensation from Preventice for his involvement in this project.