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Review : Noninvasive Localization of the Focus of Ectopic Ventricular Activation. MSc. Elena Deutsch

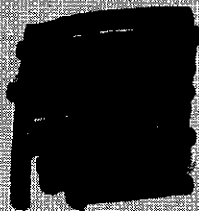
The dissertation gives a good overview of the clinical field and adds an important and clinical applicable method to localize the origin of ventricular onset, more specifically the origin of premature ventricular contractions. A strong point in the dissertation is that the whole data collection and analysis has been executed by the defendant and has also been well described. This is a tedious task, which requires accuracy and perseverance.

Each of the data analysis steps have been described in detail, with a strong emphasis on body surface map potentials and which part to select to obtain a stable and clinical valuable solution from the ill-posed inverse problem. Several methodologically parameters have been tested and described in terms of stability of the solution, e.g. volume conductor complexity, which part of the ECG signals to use.

The results are in general accordance with other methods used to solve the inverse problem in electrocardiography. The result suggest that this line of research deserves continuation and thus incorporation in the educational program of the university.

I also would like to compliment on the layout of the dissertation, well and clearly written. Finally I am methodologically interested in the determination of the patient specific time instant. The findings indicate that only a very limited time interval can already be enough to localized the PVC from body surface maps. The question raised now is if time interval and number of leads are exchangeable.

I therefore recommend the thesis to be defended, and, upon successful defense, to award Elena Deutsch, MSc. the degree Doctor of Philosophy (Ph.D.)



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