Reviewer's report

Title: High Prevalence of Altered Cardiac Repolarization in Patients with COPD

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Reviewer: Jan Peder Amlie

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This is a difficult paper.

It is obvious that in an experimental setting dispersion of repolarization is closely connected to malignant ventricular arrhythmias. This is also obvious in patients with long QT time syndrome. In a clinical setting it is difficult to get a measure of dispersion of repolarization. Janse has proposed a difference between the top of the T wave and the end of the T wave as a reflection of dispersion of depolarization (see G.Eriksen et al). Another parameter is dispersion of QT time as used in the present study. In patients with long QT time syndrome this variable seems to be of value otherwise QT time dispersion has not given clear answers. A long QT time may indicate that some of the action potentials are prolonged or delayed because of slow conduction in some areas. A way of analysis dispersion of repolarization would be to use strain echo, however strain echo is very difficult to analyze in patients with obstructive lung disease because of technical difficulties.

This study is an observational study without a clear answer.

I would very much like to see real arrhythmias in these patients before I jump to a conclusion.

It would also be of interest to find out if these arrhythmias seem to originate from the right or the left ventricle.

What about coronary artery disease in these patients? Many are heavy smokers and have otherwise an unhealthy lifestyle. Many use also adrenergic stimulating drug which is arrhythmogenic.

The study is asking a clinical important question but in my opinion does not answer it.

If the paper should be published I would like to present from the beginning that these patients often suffer sudden cardiac death. Thereafter I would like to present all the possibilities of sudden Death. Malignant ventricular arrhythmias may go through a common pathway and that is temporally dispersion of repolarization in the right or left ventricle etc.