Reviewer 1

COMMENTS TO AUTHORS

Interesting

Answer

We thank the reviewer for his kind appreciation of our work-

Reviewer 2

COMMENTS TO AUTHORS

Very interesting and well written article. It gives an important overview of the topic in a subgroup of very complex patients. The manuscript is suitable for publication.

Answer

We thank this reviewer for his positive comment.

Reviewer 3

COMMENTS TO AUTHORS

The study followed up the outcomes of subcutaneous implantable cardiac device (sICD) in 8 patients with complicated congenital heart disease in two medical centers since this kind of patients may be difficult for endocardial device because of the complicated anatomy. Results demonstrated a smooth outcome for patients through a long time follow up except a few complications. The author concluded that the sICD is effective and safe method in patients with complex congenital heart disease. ICD will have more practical use in clinic. The vast majority of patients needing ICD

therapy are suitable candidates for S-ICD implantation. Nevertheless, it currently seems to be preferentially adopted for secondary prevention of sudden death in young patients with channelopathies. So it is significant to follow up sICD outcomes. This study investigated the patients situation after sICD in some certain patients. It is helpful for the clinical researchers clinicians to choice sICD for further study or in complex congenital heart diseae. Suggestions: * Writing correction: Discussion, screening issues, paragraph 1, line 4-5. “These features have been reported as a risk factor for ECG screening failure in the S-CD.” * In the discussion, the author has a section about the pacemaker requirement for some patients. But we didn't see the related information about the pacemaker in these 8 patients. Reviewer suggest to add that if there is any patient with pacemaker and describe the detail outcomes of the patient. * Move the table title up to above the table, keep the notes under the table. * Reorganize figure 1. Move "Figure 1" out of the picture and put it under the figure together with the descriptions. * The author also pointed out the limitations of this study. Low number of patients is one of them. No matched group for control is also one. However, for the patient with complicated congenital heart disease, sICD seems a better choice than endocardial ICD.

Answer

We appreciate the meticulous review that this reviewer made. We apologize for the mistakes that we corrected. We agree that patients with an existing implanted device are an interesting subgroup. We recognize that the outcome of these patients was not properly mentioned in the results. We underscored in the follow up section that only one patient, that was previously implanted with a trans CS-lead, experienced a transient oversensing, while in the other patients no interferences were observed with the pacing programmed in the bipolar configuration.

‘***In the remaining two patients with conventional endocardial pacing system we did not observe any electrical interference during follow up.*** ‘

We reworked the table and the figure as suggested.

Reviewer 4

COMMENTS TO AUTHORS

Dear Authors this is a well written retrospective bicenter observational study of a subcutaneous defibrillator in pts with CHD and difficult anatomy. A drawback is a very limited population observed however observation time is rather long. Relatively low number of intervention was observed which do not allow any conclusions of efficacity

Answer

We thank the reviewer for his appreciation of our contribution. As we stated in the limitations, the small number of patients do not allow to make general conclusions and recommendations. However, we have to keep in mind that s-ICD is a relatively new technology and sudden death prevention in adult congenital heart disease patients are still a matter of debate. This observation may explain the very low number of this subset of patient enrolled even in large multicenter registries, such as the EFFORTLESS.

Reviewer 5

COMMENTS TO AUTHORS

The paper of Ferrero and coll. is very interesting although limited by the small sample of patients. Moreover, some points should be clarified by the authors. Please provide the number of screened patients in order to understand the percentage of population with congenital heart disease which requires a subcutaneous implantation. Please discuss the rate of supraventricular tachycardia in a half of patients and its possible influence on subcutaneous ICD inappropriate shocks. The authors can not draw any conclusion about the rate of appropriate intervention of ICD, which should

include not only subcutaneous cardioverter defibrillator. ? Please, provide in the table data about follow-up duration for each patient.

Answer

We appreciate the very focused comments made by this reviewer.

We clarified in the manuscript that all patients with congenital heart disease deemed as good candidate for S-ICD passed the screening. We totally agree that supraventricular tachycardia is a relevant issue in this group of patients. We specifically included a sentence about the rate of supraventricular arrhythmia in the follow up section: '***four clinically relevant episodes requiring admission and arrhythmia termination'***

We considered only clinical relevant episodes because the estimation of every unsustained recorded episode would be inaccurate. The relevance of this issue for the patient outcome in terms of inappropriate shocks has been further commented in the discussion.

'***However, this percentage is consistent with the one reported in the IDE and EFFORTLESS, confirming the reliability of the S-ICD algorhythm in discriminating supraventricular from ventricular tachycardia, even in this clinical setting characterized by a high incidence of atrial arrhythmias"***

Finally the individual follow up time has been included in the table.