Reviewer’s report

Title: Transvenous dual-chamber pacemaker implantation in patients with persistent left superior vena cava

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Reviewer: Luca Donazzan

Reviewer’s report:

In the article entitled "Transvenous dual-chamber pacemaker implantation in patients with persistent left superior vena cava", Dr. Li and colleagues report a retrospective analysis of their experience in implanting 9 dual-chamber pacemakers in patients with persistent left superior vena cava. They also compare total procedure time and fluoroscopy time of these 9 patients with those of 162 patients with normal venous anatomy.

The quality of written English is acceptable for publication. There are some typing errors to be corrected (for example in line 53).

The persistence of the left superior vena cava (PLSVC) is the most common thoracic vein anomaly, which usually occurs in 0.5% of the normal population and 0.47% of patients undergoing pacemaker or implantable cardioverter defibrillator implantation. The incidence in congenital heart disease is higher (2-5%). Device implantation in this population could be challenging due to short and long term complications. Furthermore, the long-term outcome of patients with PLSVC and implanted cardiac devices is mostly influenced by the presence of underlying heart disease.

In my opinion, this paper has big potentialities but is wrong written. You sentence that the purpose of the paper was to describe the methods and evaluate the efficacy of patients with PLSVC who underwent permanent pacemaker implantation with double active fixation leads. You should focus the paper on that. You should write the paper with an educational perspective. You don't need a control group, mostly because the sample size is unbalanced and it does not allow an effective statistical comparison of the two groups. Moreover, it is a retrospective analysis with all its inherent limitations.

I have the following comments:

* PLSVC is mostly associated with other cardiovascular abnormalities; did you search for them in your patients? Please report about that.

* Interestingly, you report a 100% success in pacemaker implantation via the PLSVC. None of the patients underwent late complications or device failure. Your success rate is very high and in contrast with the available literature. It would be useful if you could
better describe your implantation technique adding pictures of implantation steps, stylet curves, etc.

* Please compare your technique with that reported in the available literature.

* You recommend the implantation via the PLSVC instead of performing a contralateral right-sided implantation. In my centre we use to perform contralateral right-sided implantation, mostly the day after the first left-sided attempt. According to literature data, the complication rate of left-sided implantation over short and long time is quite high. Could you comment on that? Why do you recommend right-sided implantation?

* You don't report about possible complications of implanting an active fixation lead in the right ventricular apex or inferior free wall as well as the implantation in the lateral atrial wall. Please comment on that.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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