

# Author's Reply

## Subcutaneous ICD in anatomical challenging cases

Dear Editor,

We would like to thank Dogan et al<sup>1</sup> for their comments according to our paper "A plea for the single-lead ICD with atrial sensing due to anatomical considerations"<sup>2</sup>. The authors are right that anatomical complex cases might be treated with a subcutaneous implantable cardioverter-defibrillator (S-ICD). The S-ICD has got the advantage to avoid the long-term risk of endovascular lead placement, including displacement, intravascular infection, cardiac perforation, pneumothorax, vein thrombosis, and lead fracture<sup>3</sup>. In our case the patient had a mild to moderate stenosis of the left subclavian vein in the setting of a persistent left superior vena cava (PLSVC). Due to intermittent atrial fibrillation we planned to implant a dual chamber ICD to better discriminate atrial tachycardia and thus to minimize inappropriate ICD shocks. The concept of an S-ICD is to avoid transvenous leads by a subcutaneous presternal lead and an axillary submuscular pulse generator for sensing and defibrillation without the capacity for long-term pacing<sup>4-6</sup>. The efficacy and safety of the S-ICD was proven in several multicenter trials and registries<sup>4,5</sup> as well as in our own clinical practice<sup>6</sup>. However, an S-ICD was not considered in our patient due to intermittent pre- and postautomatic bradycardia necessitating intermittent ventricular stimulation. Additionally, another aim was to monitor the atrial arrhythmia to guide treatment strategy. An S-ICD should be discussed in all patients with an indication for an ICD except in patients with need for pacing or resynchronization therapy<sup>6</sup>. Additionally, it should be avoided in patients with slow ventricular tachycardia's (< 170 bpm), which cannot be detected by the S-ICD. Another patient cohort, who should not receive an S-ICD are those with a high probability of recurrent ventricular tachycardias amenable to antitachycardial pacing (ATP)<sup>8,9</sup>. Several trials have shown, that ATPs are able to reduce the rate of appropriate shock delivery which itself is associated with worse clinical outcome<sup>8,10</sup>.

### Conflict of Interest

The Authors declare that they have no conflict of interests.

### References

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