





Rapid pacing during aortic valve interventions: Review of pacing options and experience from Split

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Background: Rapid pacing during balloon aortic valvuloplasty (BAV) or transcatheter aortic valve replacement (TAVR) is an important step allowing for proper valve position and effective implantation while avoiding valve pop-up or ventricular complications. There are different regimes for rapid pacing during BAV/TAVR, some of which will be presented here¹.

Materials and methods: Literature database PubMed has been reviewed yielding a total of 49 research articles related to rapid pacing during BAV/TAVR in the period of 2009 to 2021. Collected articles were assessed and reappraised to extrapolate different pacing options.

Literature overview: Rapid pacing during BAV/TAVR can be achieved by insertion of a temporary transvenous pacemaker, reprogramming the existing permanent pacemaker in situ, or over-the-wire (OTW) pacing¹ (**Figure 1**). The latter further includes different protocols. The most utilized OTW pacing protocol is based on the pacing circuit consisting of a positive pole attached to the wire in the left ventricle (isolated with the catheter), while a negative pole is attached to the femoral subcutaneous tissue over the needle. However, while the described protocol offers an attractive and simple set-up, it carries a risk of contact loss, inadequate pacing, or possibly insufficient post-implantation pacing². Therefore, we present our modification of the OTW pacing scheme which allows for a safer procedure and bail-out options if necessary (**Figure 1**). Contrary to the conventional OTW scheme, our protocol includes the attachment of a negative pole to a wire in the inferior vein cava (5 French femoral sheath). This allows for stable contact, adequate length of the negative electrode, and quick bail-out insertion of a temporary transvenous pacemaker if necessary.

Conclusions: Rapid pacing during BAV/TAVR is an important procedural step, and different methods have been described to achieve this. Modification of the existing protocol may lead to additional benefits and a more convenient procedure.

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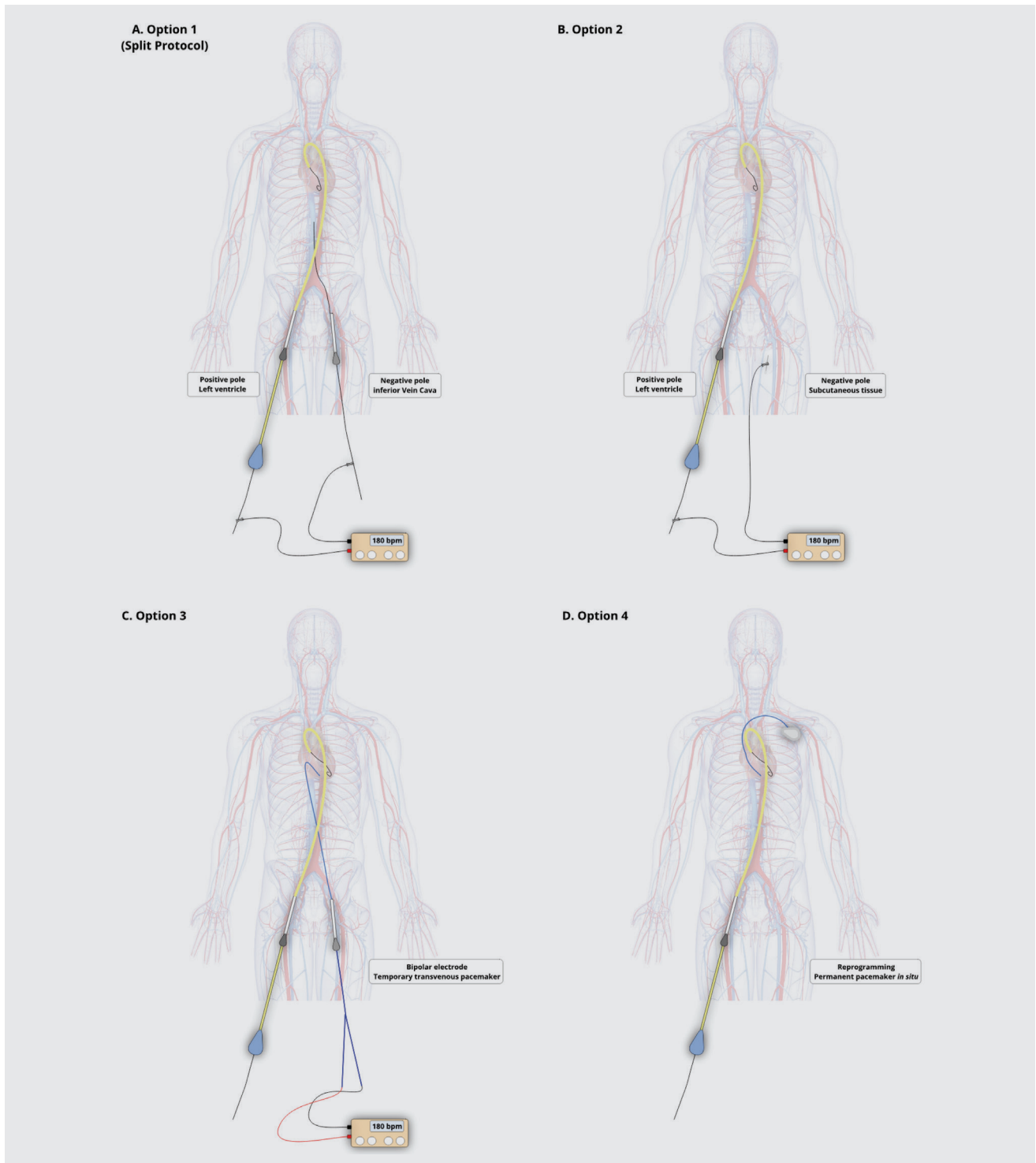


FIGURE 1. Illustrative overview of rapid pacing methods during balloon aortic valvuloplasty or transcatheter aortic valve replacement.

LITERATURE

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