My First Experience in EP Lab: Serial Cases of Parahisian Accessory Pathway in Young Adult

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Introduction: DR M Djamil General Hospital is one of referral center hospital in Sumatera Barat, Indonesia. We have new electrophysiology study lab that perform our very first arrhythmia patient which was diagnostic as parahisian accessory pathways. Radiofrequency catheter ablation of parahisian accessory pathways is a challenging task, due to the extremely high risk of complete atrioventricular block. In this brief report we describe the serial case of young adult persons a 17-year-old man and 33-year-old woman presenting a parahisian accessory pathway, who has not been followed to radiofrequency ablation. Radiofrequency catheter ablation using low-power radiofrequency current is considered to be the most appropriate method of ablation in adult patients, and plan to be performed in tertiary hospital.

Methods: A 17-year-old young man presented with episodes of recurring tachycardia since 1 year. The episodes recurred up to five times per month, lasted up to 30 min, and were accompanied by dizziness. The patient is a high school student. He underwent a first EP study in 12nd January 2019. Ventricular overdrive pacing from the right ventricular (RV) apex is used to establish the mechanism of supraventricular tachycardia (SVT) and showed earliest A activation in His, with RV ERP 200 ms and AVN ERP retro 260 ms. Pacing from HRA showed Parahisian pacing was compatible with the presence of an accessory pathway (AP) with AVN antegrade 260 ms and AERP 230 ms. The ablation procedures was canceled due to this parahisian accessory pathway. Second case, was a 33-year-old woman presented with episodes of recurring tachycardia since 4 years. The episodes recurred up to three times per month, lasted up to 30 min, and were accompanied by dizziness intermittently. The patient is a housewife. She underwent a EP study in the same day. Parahisian pacing was compatible with the presence of an accessory pathway as well, and the ablation procedures was canceled.

Result: The ablation of accessory pathways is the recommended treatment in patients who present with episodes of supraventricular tachycardias, when an EPS proves the relatively short anterograde refractory period of the accessory pathway. Accessory pathway ablation has a 95–99% success rate with a recurrence of 5–10%. A severe complication is the complete AV block resulting in the need for permanent pacemaker implantation. In order to reduce the risk of complications, ablation using lower energy levels can be performed, based on cryothermia-based mapping or magnetic navigation. In both case that reported here, neither of them underwent ablation of accessory pathways, for avoiding a complete AV block.

Conclusion: We reported serial cases of young adult patient which was diagnosis as parahisian accessory pathway. Radiofrequency of catheter ablation at this site is a challenging task to do in district hospital.