Introduction

The clinical presentation of a patient with an accessory pathway varies considerably, from an asymptomatic patient in whom preexcitation is diagnosed on a screening electrocardiogram (ECG) to a young patient presenting with aborted sudden death. Accessory pathways may participate in orthodromic reciprocating tachycardia (ORT) or antidromic reciprocating tachycardia (ART), or may act as bystanders during other arrhythmiasae.g., atrial fibrillation (AF) or atrioventricular nodal reentrant tachycardia (AVNRT) ***(Morady et al., 2008)***.

In general, patients with symptoms and documented tachycardia or preexcitation on the electrocardiogram are referred for electrophysiologic testing and ablation. The combination of tachycardia and evidence of preexcitation on the electrocardiogram (Wolff–Parkinson–White syndrome WPW) is a class I indication for electrophysiologic evaluation. Even in the absence of symptoms, patients with high-risk occupations e.g., pilots or bus drivers may be considered for catheter ablation as well. Electrophysiologic evaluation is usually not recommended in patients with preexcitation who are otherwise asymptomatic, as they are thought to be at low risk for adverse events ***(Blomstrom. et al.,2003).***

Accessory pathways may conduct in the anterograde direction, resulting in manifest preexcitation. Manifest or overt preexcitation is defined as a PR interval of <120 ms and a QRS width of ≥120 ms. Minimal preexcitation may present as slurring of the QRS upstroke with a QRS duration <120 ms and a PR interval <120 ms. Concealed accessory pathways, on the other hand, are not able

to conduct anterogradely and therefore are not apparent on the ECG. Many accessory pathways conduct in both anterograde and retrograde directions ***(Bogun et al., 1999).***

The electrocardiogram of a patient with preexcitation is helpful in localizing the accessory pathway prior to the electrophysiology procedure. Although several algorithms have been devised for reliable localization of accessory pathways , a few simple observations usually suffice. Electrocardiographic localization may also be helpful in informing the patient and family about the relative success and complication rates of the procedure. For example, a patient with relatively mild symptoms and an electrocardiogram suggestive of an anteroseptal or midseptal accessory pathway may prefer medical therapy rather than face a small risk of AV block ***(Morady et al.,2008).***

Tachycardias in the WPW syndrome can be divided into two groups: (1) those in which the accessory pathway is an integral part of the reentrant circuit; and (2) tachycardias that conduct over the accessory pathway as a passive bystander, but the accessory pathway is not essential to the maintenance of the tachycardia. ***(Miles et al.,1986)***

Among accessory pathways, those located in the anteroseptal and midseptal regions are the least common. The incidence of anteroseptal pathway is about 4-8%, and that of midseptal pathway is 2-9%. The incidence of posteroseptal APs is 27% ***(Jazayeri et al., 1994).***

In spite of their low occurrence, the close proximity of these accessory AV pathways to the AV node and His bundle poses increased risk of inadvertent impairment of normal AV conduction during RF catheter ablation. It is considered that patients with accessory pathways located at these sites are at times among the most technically challenging to be treated successfully ***(Kuck et al., 1992).***