Title

Location of accessory pathways within the local population: a retrospective analysis.

Authors

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Introduction

Accessory pathways represent an abnormal connection that allows aberrant electrical conduction, most commonly between atrium and ventricle. This may result in the formation of a re-entry circuit with subsequent tachycardia, namely atrioventricular re-entrant tachycardia (AVRT). Patients are also at risk of pre-excited atrial fibrillation, with rapid conduction to the ventricles down the accessory pathway, which can precipitate into ventricular fibrillation. Radiofrequency ablation of the accessory pathway is the treatment of choice for symptomatic or high risk patients.

Aim

To establish the prevalence of different locations of accessory pathway in patients undergoing ablation in the Maltese population; and to evaluate potential relationship with patient demographics and ablation success.

Method

Data was collected for all patients who underwent an electrophysiological (EP) study were found to have an accessory pathway over a five-year period (Jan 2016 – Jan 2021). Procedure reports were obtained from CVIS to assess pathway location, ablation success and patient demographics. When needed, pathway location was verified from cine flouroscopy available on ISCV system.

Results

A total of 57 patients were included in the study. Of these, 54% of pathways were left sided (n=31), most commonly left lateral (n=11), followed by left superolateral (n=7) and left posterolateral (n=7). Among right sided pathways (n=26), the most common where right anteroseptal / parahisian (n=10) and right posteroseptal (n=10).

Discussion

The regions with highest occurrence of accessory pathways where the left free wall (including the left lateral, posterolateral and anteroseptal regions), followed by right posteroseptal area. This is similar to that from other populations in previous studies, including Oklahoma, Turkey and Israel.

A significantly higher incidence was noted, however, for right anteroseptal / parahisian pathways. This was found in 16.9% of the population, compared to 5.3% (Oklahoma), 8.5% (Turkey) and 7% (Israel)

The mean age of our population was 37 years, similar to data from the Swedish population (mean age 41 years), but higher compared to that from Spain (mean ages 21 years), Turkey and Taiwanese (mean ages 27 years).

Conclusion:

This study showed a distribution of location of accessory pathways similar to that in cohorts from previous study, with the exception of right anteroseptal / parahisian pathways, that were significantly higher locally. A relatively slightly higher mean patients age was noted.