Abstract: P2247

Pregnancies and childbirth in women with arrhythmogenic right ventricular cardiomyopathy are associated with low risk of ventricular arrhythmias

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On behalf: Nordic ARVC Registry

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Cardiovascular Disease in Women

Citation:

Background: Arrhythmogenic right ventricular cardiomyopathy (ARVC) is associated with a risk of ventricular arrhythmias (VA) and sudden cardiac death (SCD). Even though female patients with ARVC are considered to be at lower risk of VA, the impact of pregnancy and childbirth on the arrhythmic risk and development of arrhythmic substrate in the context of ARVC remains insufficiently studied.

Objective: To assess the risk of VA in relation to childbirth in women with ARVC and the impact of multiple pregnancies on progression of arrhythmic manifestations of the disease.

Methods: The study included 186 females with definite ARVC (n=107, 70 probands) or unaffected mutation-carriers (n=79) with median age at the end of follow up of 48 (IQR 34-60) years. Seventeen women had 1, 59 had 2 and 29 had ≥3 childbirths by the age of 40 years. VA was defined as ventricular tachycardia, appropriate ICD therapy, aborted cardiac arrest or SCD. Proportions of patients who experienced VA by the age of 40 years were compared between nulliparous women (n=81) and those with reported childbirths (n=105). VA-free survival after accomplished pregnancies was assessed for women ≥40 years of age (n=119). Cumulative probability of VA for each pregnancy (n=230) was assessed from conception through 2 years after child birth and compared between those that occurred before ARVC diagnosis (Pre-Ds, n=164), after it (Post-Ds, n=11) and in unaffected mutation carriers (No-Ds, n=55).

Results: The nulliparous women had lower age at ARVC diagnosis (37 vs 44, p=0.023) and more often had VA before the age of 40 (31% vs 13%, p=0.003) while the number of childbirths was not related to the prevalence of VA (18% among women with 1 childbirth, 12% in those with 2 and 14% in those with 3 or more, ns). Three women suffered SCD before the age of 40. VA-free survival after 40 years did not differ between nulliparous and those who gave birth (Figure A). Only four pregnancy-related events were documented (Figure B): 1 in the Post-Ds group and three in the Pre-Ds group. No pregnancy-related events were reported in the unaffected mutation carriers.

Conclusion: In this Scandinavian cohort of women with ARVC we observed no indication of an increased VA risk either associated with pregnancies or during long-term follow up after the last child birth.
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