High Frequency Alternating Current Ablation of an Accessory Pathway in Humans

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High frequency alternating current ablation of an accessory pathway was performed in a patient with incessant circus movement tachycardia using a right-sided, free wall accessory pathway. Antiarrhythmic drugs, antitachycardia pacing and transvenous catheter ablation using high energy direct current shocks could not control the supraventricular tachycardia. A 7F bipolar electrode catheter with an interelectrode distance of 1.2 cm was positioned at the site of earliest retrograde activation during circus movement tachycardia. At this area, two alternating current high frequency impulses were delivered with an energy output of 50 W through the distal tip of the bipolar catheter, while the patient was awake. After the first shock supraventricular tachycardia terminated and accessory pathway conduction was absent without altering anterograde conduction in the normal atrioventricular (AV) conduction system. No reports of pain or other complications were noted. In short-term follow-up of 5 months, the patient had been free of arrhythmias without antiarrhythmic medication.

Thus, high frequency alternating current ablation was performed for the first time in the treatment of an arrhythmia incorporating an accessory pathway in a human. This technique may be an attractive alternative to the available transcatheter ablation techniques and to antitachycardia surgery.

(J Am Coll Cardiol 1987;10:576–82)

Courtesy of Prof. Borggrefe and Dr. Breithard

Research and publications:

568 studies published from 1982 to 2011

First publication together

European Heart Journal (1999) **20,** 1068–1075
Article No. euhj.1999.1657, available online at http://www.idealibrary.com on IDEAL®

Working Group Report

Living anatomy of the atrioventricular junctions

A guide to electrophysiological mapping

A Consensus Statement from the Cardiac Nomenclature Study Group, Working Group of Arrhythmias, European Society of Cardiology, and the Task Force on Cardiac Nomenclature from NASPE

1999

The short QT

Short QT Syndrome
A Familial Cause of Sudden Death

Fiorenzo Gaita, MD; Carla Giustetto, MD; Francesca Bianchi, MD; Christian Wolpert, MD;
Rainer Schimpf, MD; Riccardo Riccardi, MD; Stefano Grossi, MD;
Elena Richiardi, MD; Martin Borggrefe, MD

Background—A prolonged QT interval is associated with a risk for life-threatening events. However, little is known about prognostic implications of the reverse—a short QT interval. Several members of 2 different families were referred for syncope, palpitations, and resuscitated cardiac arrest in the presence of a positive family history for sudden cardiac death. Autopsy did not reveal any structural heart disease. All patients had a constantly and uniformly short QT interval at ECG.

Methods and Results—Six patients from both families were submitted to extensive noninvasive and invasive work-up, including serial resting ECGs, echocardiogram, cardiac MRI, exercise testing, Holter ECG, and signal-averaged ECG. Four of 6 patients underwent electrophysiological evaluation including programmed ventricular stimulation. In all subjects, a structural heart disease was excluded. At baseline ECG, all patients exhibited a QT interval ≤280 ms (QTc ≤300 ms). During electrophysiological study, short atrial and ventricular refractory periods were documented in all and increased ventricular vulnerability to fibrillation in 3 of 4 patients.

Conclusions—The short QT syndrome is characterized by familial sudden death, short refractory periods, and inducible ventricular fibrillation. It is important to recognize this ECG pattern because it is related to a high risk of sudden death in young, otherwise healthy subjects. (***Circulation***. **2003;108:965-970.)**

2003

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Clinical research

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Short QT syndrome: clinical findings and

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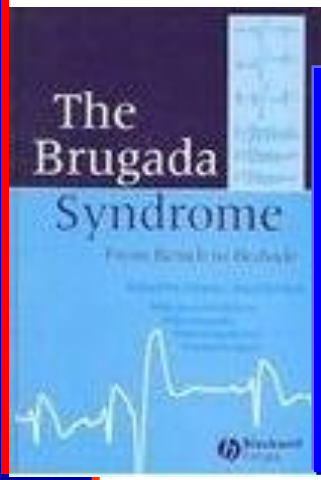
of Supraventricular Tachyarrhythmias



"Atrial Tachyarrhythmias in Brugada syndrome"

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From the ***book*** " The Brugada Syndrome: from bench to bedside" edited by Charles Antzelevitch. Blackwell Futura 2005: 178-183

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