

Philippe Coumel: a founding father of modern arrhythmology★

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On March 18, 2004, Philippe Coumel passed away in Paris. At that time European cardiology lost one of its most creative sons.

In the late 1960s and early 1970s Philippe Coumel not only introduced the technique of programmed electrical stimulation of the heart [1]★, simultaneously with but independent of Durrer and co-workers in Amsterdam, but also described criteria to determine the mechanisms and pathways of AV junctional reciprocating tachycardias [1★–5]★.

By reporting findings such as (1) the paradoxical capture and (2) prolongation of tachycardia VA conduction times during bundle branch block ipsilateral to the location of the accessory pathway, and by showing preexcitation of the atria by an appropriately timed ventricular premature extrastimulus during supraventricular tachycardia with the bundle of His refractory, he clearly indicated how to identify the presence of an accessory AV pathway in the tachycardia circuit.

After having studied the substrate of a tachycardia and some of its triggers, Coumel realized the limitations of programmed electrical stimulation in investigating all the factors in the development of cardiac arrhythmias.

He then used the Holter recording to unravel the role of the autonomic nervous system [6★–9]★.

This resulted in the concept of Coumel's triangle of arrhythmogenesis: *"there are always three main ingredients required for the production of a clinical arrhythmia, the arrhythmogenic substrate, the trigger factor and the modulation factors of which the most common is the autonomic nervous system. The role of the autonomic nervous system is best assessed by the data provided from Holter recordings, a true electrophysiological investigation, rather than a simple tool for picking up spontaneous arrhythmias"*

Although Philippe Coumel was one of the first to accept the implantable cardioverter defibrillator (ICD) [10]★, he never lost sight of its limitations [11].

In the field of ventricular arrhythmias he continued to describe new findings such as the polymorphic catecholaminergic ventricular tachycardias [12]✦, as well as a form of Torsades des Pointes triggered by short-coupled ventricular extrasystoles in patients with a normal QT interval [13]✦.

The dynamic behaviour of the QT interval and its role in arrhythmogenesis were the more recent areas of interest for Coumel [14✦,15]✦.

Although Coumel wrote almost 400 scientific papers and more than 200 book chapters, he will be remembered for his original concepts based on detailed analysis of an arrhythmia often in a single patient.

He immediately recognized what was new and exciting and did not need a large series of patients to prove his theories. Philippe will be remembered by cardiologists from all over the world, not only because of his originality leading to important new findings, but also because of his support and friendship.

▶ Footnotes

✦Reprinted from European Heart Journal, volume 25, Farré J, Wellens HJ, Obituary to: Philippe Coumel—A founding father of modern arrhythmology, pages 1083–1084, Copyright 2004, with permission from the European Society of Cardiology. 📄

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