pre-excitation during sinus rhythm, not the preference for the bypass tract during atrial fibrillation.

Thus latent pre-excitation could become apparent during atrial fibrillation if the atrioventricular node is an unprotected pacemaker that exhibits resetting during sinus rhythm and electrotonic modulation during atrial fibrillation.

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References

11 Van der Tweel I, Herbschleb JN, Borst C, Meijler FL. Deterministic model of the canine atrio-ventricular node as a periodically perturbed, biological oscillator. J Appl Cardiol 1986;1:157–73. This letter was shown to one of the authors, who replies as follows:

Sir,

We were aware of the interesting concepts developed by Meijler and his colleagues which have recently been published. Their attractive hypothesis can be tested and potentially falsified, and time will tell whether it will replace current views on atrioventricular conduction.

Meijler questions these classic concepts and wonders how they were developed. There was much debate on this question at the turn of the century, and when Mackenzie formulated his ideas on the clinical aspects of conduction of the atrial impulse to the ventricles he based them substantially on the fundamental work of Gaskell, Keith, and Kent in England and on the observations of Engelmann of Utrecht and Wenckebach, then of Groningen. The following year Tawara described the atrioventricular node, and in the first edition of Mackenzie's Diseases of the heart, figure 2 shows "the Knoten of Tawara". The novel concept that conduction occurred through the atrioventricular node was considered at some length.

Whether the physiological concept of atrioventricular node conduction is correct, or whether Meijler's attractive hypothesis achieves acceptance, the factors that we described in our patients with latent pre-excitation presumably caused the latent accessory pathway to become activated during atrial fibrillation while the function of the atrioventricular node was depressed. What we saw in our patients is not incompatible with the new hypothesis.

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References