

[ PICTURES IN CLINICAL MEDICINE ]

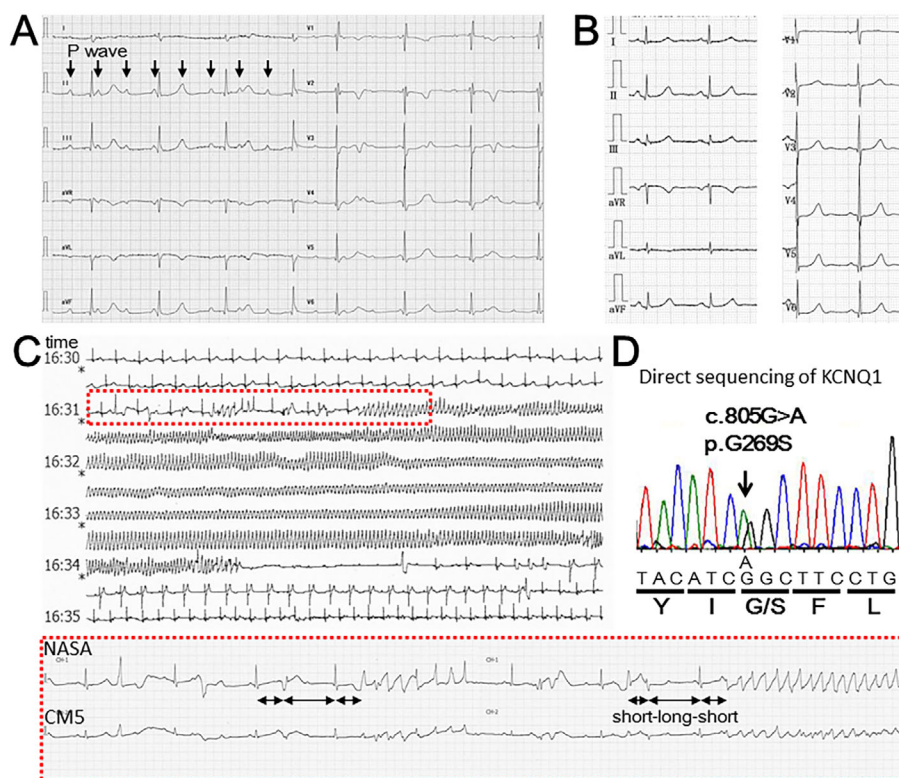
## Atrioventricular Block-induced Torsades de Pointes Associated with *KCNQ1*-G269S

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**Key words:** long QT syndrome, atrioventricular block, torsades de pointes, *KCNQ1*, mutation

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**Picture.**

A 78-year-old woman was referred to our hospital because she had been suffering from recurrent episodes of syncope for the last 3 weeks. She had neither a history of syncope nor any family history of sudden death or long QT syndrome (LQTS). A 12-lead electrocardiogram (ECG) showed complete atrioventricular block (AVB) [heart rate (HR): 45 bpm] with QT prolongation (QTc: 541 ms) (Picture A), although ECG recorded 4 months earlier showed sinus rhythm (HR: 66 bpm) with slight QT prolongation (QTc: 449 ms) (Picture B). Holter ECG documented tor-

sades de pointes (TdP) triggered by a short-long-short interval of ventricular activation during complete AVB (Picture C). Blood tests revealed no electrolytes disturbance, and echocardiogram revealed no structural heart disease. Ventricular pacing eliminated the recurrence of TdP. A genetic analysis of major LQTS-related genes identified a *KCNQ1*-G269S mutation (Picture D), which has previously been reported to be associated with adrenergic-induced LQTS (1, 2). This case demonstrated that AVB could be a precipitating factor for TdP in adrenergic-induced LQTS.

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**The authors state that they have no Conflict of Interest (COI).**

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