LETTERS

Possible Brugada Phenocopy induced by a giant mediastinal lipoma, Re: Brugada-like ECG pattern due to giant mediastinal lipoma

Dear Editor,

We read the case report by Asteriou et al, with great interest and noted that this patient had a type 2 Brugada ECG pattern induced by a large mediastinal lipoma[1]. The paper is important as it contributes to the growing body of literature describing Brugada Phenocopies (BrP)[2,3].

BrP are characterized by ECG patterns that are identical to either type 1 or type 2 Brugada ECG patterns in the absence of true congenital Brugada Syndrome (BrS). BrP may be induced by a number of clinical conditions that we have characterized into six distinct etiological categories: (i) metabolic conditions; (ii) mechanical compression; (iii) myocardial ischemia & pulmonary embolism; (iv) myocardial & pericardial disease; (v) ECG modulation; and (vi) miscellaneous[4]. The case presented by Asteriou et al may possibly qualify under category (ii) mechanical compression; however, further investigations are required before diagnosing BrP in this patient.

In order to diagnose BrP, the patient must have: (i) a type 1 or type 2 Brugada ECG pattern; (ii) an underlying condition that is identifiable; (iii) resolution of the EGG pattern upon resolution of the underlying condition; (iv) a low clinical pretest probability of true congenital BrS determined by lack of symptoms, medical history, and family history; (v) a negative provocative test with sodium channel blockers such as ajmaline, flecainide, or procainamide; (vi) provocative testing not mandatory if surgical RVOT manipulation has occurred within the last 96 hours; (vii) negative genetic testing (desirable but not mandatory because the SCN5A mutation is identified in only 20% to 30% of probands affected by true Brugada Syndrome)[5].

This case meets most of the mandatory diagnostic criteria for BrP; however, we recommend that the authors contact the patient and conduct a sodium channel provocative challenge to rule out congenital sodium channel dysfunction. If negative, the case would indeed qualify as a true BrP and will be included in our international BrP registry (www.brugadaphenocopy.com). If positive, this suggests congenital sodium channel dysfunction and further assessment with risk stratification is required to prevent sudden cardiac death.

In the literature to date, there have been two prior published cases of mediastinal tumours inducing BrP[6,7]. The first[6] was that of metastatic breast carcinoma inducing a type 1 BrP with resolution after surgical resection. The second[7] was that of an interventricular rhabdomyoma causing a type 1 BrP at age 17 months with subsequent resolution at age 21 months. In both cases, along with the present, it is likely that alterations in myocardial depolarization or repolarization associated with right ventricular outflow tract mechanical compression may cause the ECG findings; however, this remains speculative.

We recommend to the authors that future case reports use the terminology *Brugada Phenocopy* for consistency in the literature and to facilitate future research on this clinical phenomenon.

Conflict of interest

None.

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Key Words: Brugada Phenocopy; Brugada Syndrome; Mediastinal lipoma

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