**Supplementary Appendix**

**Supplementary Table 1.** Details on the diagnostic criteria met for individual CPVT patients. The criteria proposed by the 2013 HRS/EHRA/APHRS expert consensus statement were used:

1. CPVT is diagnosed in the presence of a structurally normal heart, normal ECG, and unexplained exercise or catecholamine-induced bidirectional VT, polymorphic ventricular premature beats or VT in individuals <40 years of age.
2. CPVT is diagnosed in patients (index case or family member) who have a pathogenic mutation.
3. CPVT is diagnosed in family members of a CPVT index case with a normal heart who manifests exercise-induced PVCs or bidirectional/polymorphic VT.
4. CPVT can be diagnosed in the presence of a structurally normal heart and coronary arteries, normal ECG, and unexplained exercise or catecholamine-induced bidirectional VT, polymorphic ventricular premature beats or VT in individuals >40 years of age.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Case number | Criteria 1 | Criteria 2 | Criteria 3 | Criteria 4 |
| CNChen202001 | 1 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNDuan201801 | 1 | VUS  | 0 | 0 |
| CNGao201801 (Proband) | 1 | 1 (likely pathogenic) | 0 | 0 |
| CNGao201802 (Brother 1) | 1 | VUS | 1 | 0 |
| CNGao201803 (Brother 2) | 1 | VUS | 1 | 0 |
| CNGe201701 | 1 | 0 (likely benign)  | 0 | 0  |
| CNGe201702 | 1 | VUS  | 0 | 0  |
| CNGe201703 | 1 | 1  | 0 | 0  |
| CNGe201704 | 1 | VUS  | 0 | 0  |
| CNGe201705 | 0  | 0 (likely benign)  | 0 | 0  |
| CNGe201706 | 0  | VUS  | 0 | 0  |
| CNGe201707 | 0  | VUS  | 0 | 0  |
| CNGe201708 | 1 | VUS  | 0 | 0  |
| CNGe201709 | 1  | 0 | 0 | 0 |
| CNGe201710 | 1 | VUS  | 0 | 0  |
| CNGe201711 | 1 | - (not done) | 0 | 0 |
| CNHou201901 | 1 | VUS | 0 | 0 |
| CNLiQ201901 (Family 1) | 1 | 1 (likely pathogenic)  | 0 | 0  |
| CNLiQ201902 (Family 1) | 1 | 1 (likely pathogenic) | 1 | 0 |
| CNLiQ201903 (Family 1) | 1 | 1 (likely pathogenic) | 1 | 0 |
| CNLiQ201904 (Family 2) | 1 | VUS  | 0 | 0  |
| CNLiQ201905 (Family 3) | 1 | VUS  | 0 | 0 |
| CNLiQ201906 (Family 4) | 1 | VUS  | 0 | 0 |
| CNLiZ201901 | - (no details provided) | - (not done) | 0 | 0 |
| CNLiZ201902 | - (no details provided) | - (no further detail on mutation was provided)  | 0 | 0  |
| CNLiZ201903 | - (no details provided) | - (no further detail on mutation was provided)  | 0 | 0  |
| CNLiZ201904 | - (no details provided) | - (no further detail on mutation was provided)  | 0 | 0  |
| CNLiZ201905 | - (no details provided) | - (no further detail on mutation was provided)  | 0 | 0  |
| CNLin201802 (Sister) | 0  | VUS  | - (proband with unknown diagnosis)  | 0 |
| CNLin201805 (Father)  | 0 | VUS  | - (proband with unknown diagnosis) | 1 |
| CNShe202001 | 1 | VUS  | 0 | 0 |
| CNXie201901 (Proband) | 1 | VUS  | 0 | 0  |
| CNXiong201801 | 1 | VUS | 0 | 0 |
| CNYang202101 | - (no details provided)  | VUS  | 0 | 0 |
| CNYang202102 | - (no details provided) | VUS  | 0 | 0 |
| CNZhang201901 | 1 | VUS | 0 | 0 |
| CNZhao201201 | 0  | - (no further detail on mutation was provided)  | 0 | 0 |
| CNZhao201202 | 0 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNZhao201203 | 0 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNZhao201204 | 0 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNZhao201205 | 0 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNZhao201206 | 0 | - (no further detail on mutation was provided)  | 0 | 0 |
| CNLee202101 | 1 | 1 | 0 | 0 |
| CNLee202102 | 1 | 1 | 0 | 0 |
| CNLee202103 | 1 | 1 | 0 | 0 |
| CNLee202104 | 1 | 1 | 0 | 0 |
| CNLee202105 | 0 | 1 | 1 (brother, mother, maternal granduncle) | 0 |
| CNLee202106 | 1 | 1 | 1 (brother, mother – not related to CNLee202105) | 0 |
| CNLee202107 | 1 | 1 | 0 | 0 |
| CNLee202108 | 1 | 1 | 0 | 0 |
| CNLee202109 | 1 | 0 | 0 | 0 |
| CNLee2021010 | 1 | 1 | 0 | 0 |
| CNLee2021011 | 0 | 1 | 1 (father, sister) | 0 |
| CNLee2021012 | 1 | 1 | 0 | 0 |
| CNLee2021013 | 1 | 0 | 0 | 0 |
| CNLee2021014 | 1 | 1 | 0 | 0 |
| CNLee2021015 | 1 | 1 | 0 | 0 |
| CNLee2021016 | 1 | 1 | 0 | 0 |