

### Incidence of atrial and ventricular arrhythmias in patients with CIEDs and COVID-19

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**Background:** It remains unclear whether COVID-19 infection is associated with increased arrhythmia burden in patients with cardiac implantable electronic devices (CIEDs).

**Methods:** We identified 46 patients tested positive for COVID-19 between 01/03/2020 and 31/05/2021 in our cohort of 1209 patients with CIED (3.8%). Data on arrhythmia burden during a 9 week period (a 4 week “pre-infection” period: P1, the week before the positive Covid-19 test: P2, and the 4 weeks afterwards: P3) was accessible in 35 patients.

**Results:** 83% of patients were not hospitalised. Five patients (14.3%) (all non-hospitalised) had high rate atrial (HRA) events, 4 of which exclusively during P1 and/or P2. Thirty-two non-sustained VT (NSVT) episodes were recorded in 8 patients, one degenerating in VF requiring ICD shock (occur-

ring in P2). One patient had frequent NSVT each week. After exclusion of this outlier, a numerical 4-fold increase in weekly NSVT episodes was observed between P1 and P3 (Patients with NSVT: 0.07±0.12 vs. 0.29±0.17 episodes/week, p=0.057; entire cohort: 0.015±0.060 vs. 0.059±0.138 episodes/week, p=0.16) (Figure 1). In P3, hospitalised patients had a trend towards higher NSVT burden vs. non-hospitalised patients (2/6 (33.3%) vs. 4/29 (13.8%), p=0.27) which was not apparent before the positive Covid-19 test.

**Conclusion:** Our single-centre experience suggests that COVID-19 infection may result in an increase in VA but not atrial arrhythmia burden in patients with CIED.

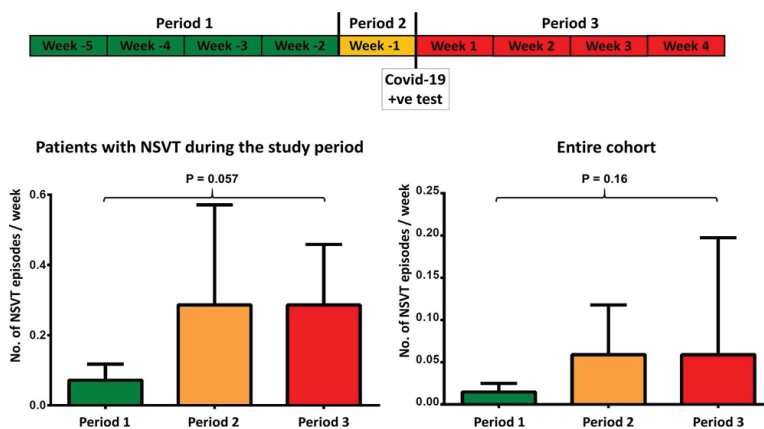


Figure 1