1.79 ± 0.76 in females, p=0.05). Duration of implant was also similar between the two groups (101 ± 71 months in males vs 114 ± 71 months in females, p=0.13). Despite the above findings, lead perforation rates were noted to be significantly higher in females as compared to males (15.2% vs 6.8%, p=0.01).

**Conclusion:** Despite younger age and lower comorbidity burden, females were noted to have significantly higher rates of lead perforation as compared to males. Further studies are needed to evaluate the relationship between lead perforation on CT and adverse outcomes in women undergoing lead extraction.

**CI-563-04**

**EFFECTS OF AGE AND SEX ON CLINICAL AND ELECTROCARDIOGRAPHIC FEATURES IN YOUNG PATIENTS WITH BRUGADA SYNDROME**

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**Background:** Brugada syndrome (BrS) is an inherited arrhythmia that is characterized by male predominance and life-threatening arrhythmic events (LAEs) mainly in middle age. Children with BrS are rare, therefore, the clinical features and sex differences remain unclear.

**Objective:** This study aimed to clarify the clinical characteristics in young BrS patients.

**Methods:** This study included consecutive 69 definite BrS patients (18 females) ≤ 20 years old diagnosed by the Shanghai scoring system between 1998 and 2020 from multiple institutions. The registry included clinical information of both retrospective (ie. ECGs before enrollment) and prospective follow-up, and clinical backgrounds, ECG changes, genetic mutations were analyzed.

**Results:** Regarding the sex ratio at each age of onset (the age at which the type 1 ECG was firstly recorded), males accounted for 60% of patients ≤ 10 years old, and 93% of those > 10 years old (Fig.1A). During 5.3 ± 5.5 years of follow-up, eight patients (12%) experienced 12 LAEs including SCD (n= 2), aborted SCD (n= 2), VF (n= 4), or sustained VT (n= 4). Two patients died of VF storm despite being treated with quinidine and ICD. LAE occurred in 2.2% for a patient per year. In males, the first LAE occurred equally across all ages, in females, conversely, it was found only in those younger than 7 years old (Fig.1B). In the patients with multiple ECG recordings over time, five of nine (56%) female patients exhibited normalization of type 1 ECGs after puberty (Fig.2A to 2E), and the patients didn’t experience LAEs after the ECG normalization. In males, no patients showed the normalization of type 1 ECGs. Mutations in SCN5A were identified in 52%, especially more frequently in infants and toddlers (0-3y, 78%). In particular, the mutations located in the pore region of the cardiac sodium channel were detected more frequently in infants and toddlers than in other age groups (71% vs.25%, p= 0.03).

**Conclusion:** In this large cohort of young patients with BrS, we found no gender difference in the incidence of BrS until puberty, but the new-onset was decreased in females after puberty, and some female cases exhibited the normalization of Brugada ECGs. In addition, patients under the age of 3 years had more frequent LAEs and SCN5A mutations, suggesting the relationship of genetic backgrounds.