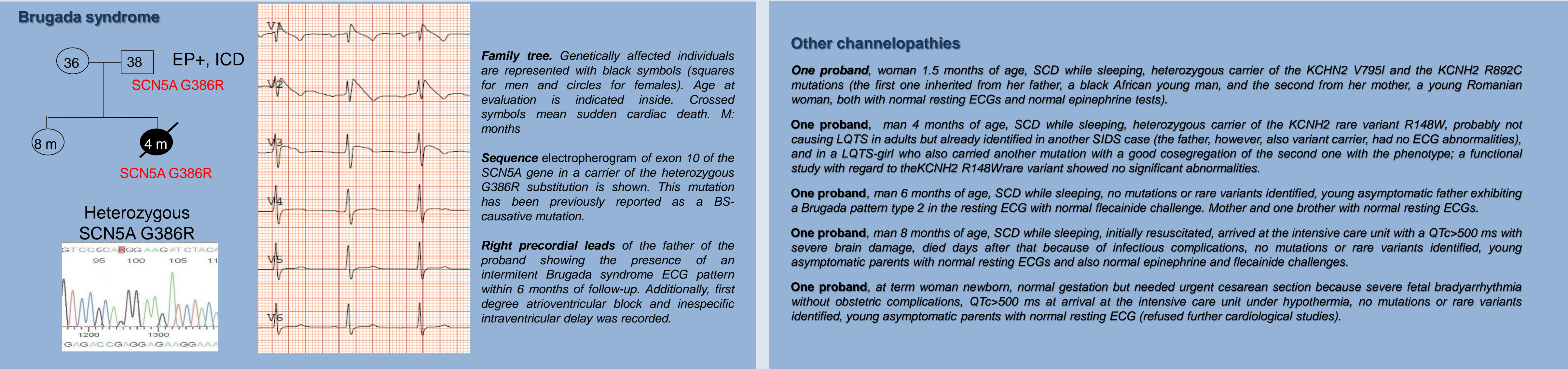
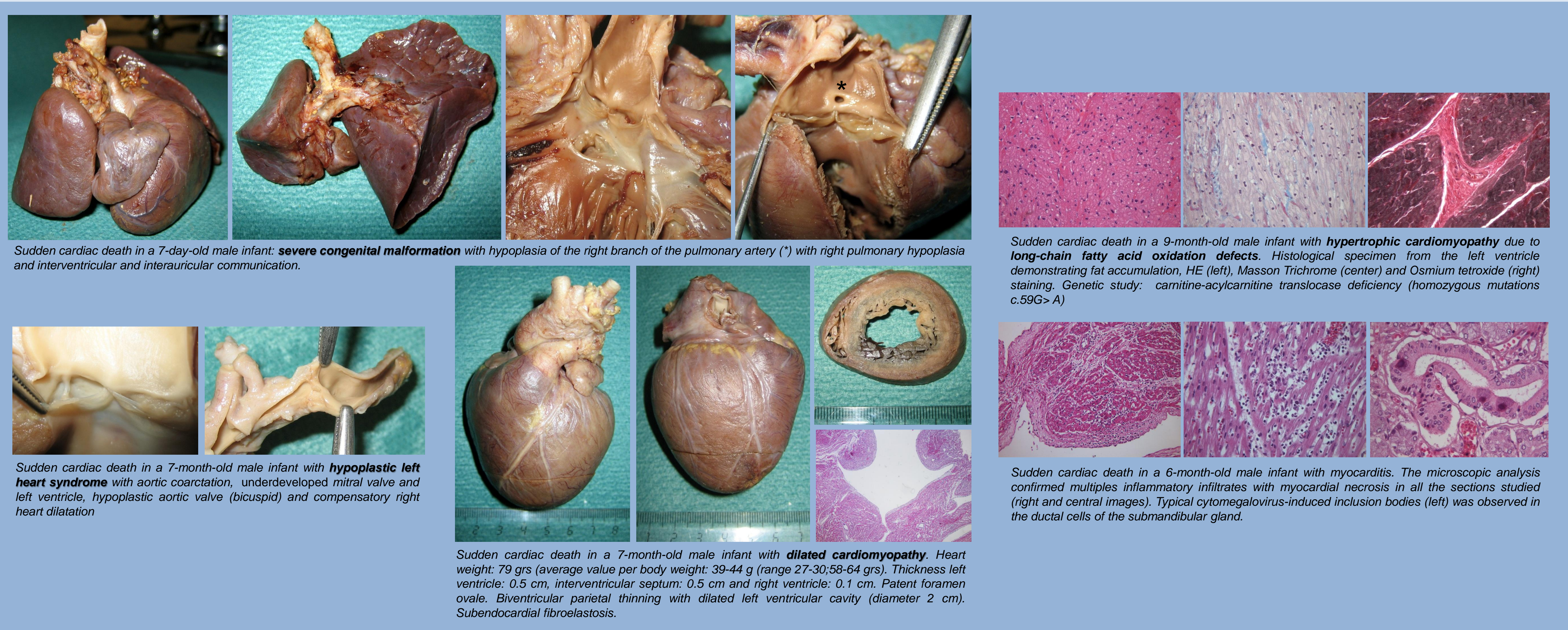
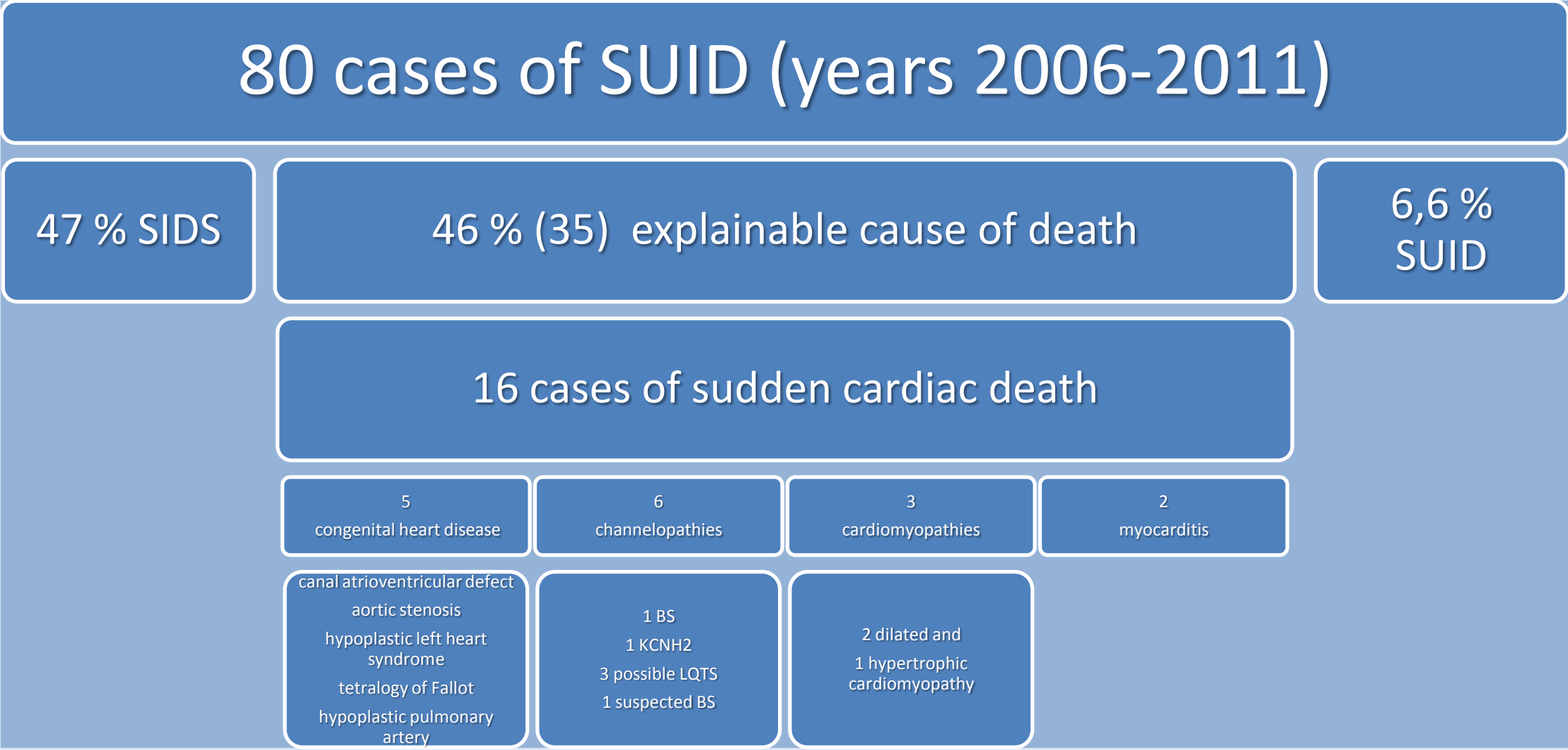


OBJECTIVES: To evaluate cardiac causes of sudden unexplained infant death (SUID) in our county with a multidisciplinary approach.

MATERIAL AND METHODS: Post-mortem investigations followed the San Diego classification. DNA from blood samples was preserved for genetic studies in selected cases (KCNQ1, KCNH2 and SCN5A genes). First degree relatives underwent cardiological evaluation with ECG, echocardiography and exercise testing (optional Holter-ECG monitoring).

RESULTS:

- 80 cases of SUID from 2006 to 2011 were reviewed.
- Thirty-six cases (47%) had been diagnosed as sudden infant death syndrome (SIDS), 5 (6.6%) as undetermined and 35 (46%) had an explainable cause of death.
- Cardiac diseases (16) are the second cause of explainable death (52%) are infectious diseases) and included: **congenital heart disease** (canal atrioventricular defect, aortic stenosis, hypoplastic left heart syndrome, tetralogy of Fallot, and hypoplastic pulmonary artery), **channelopathies** (6: 1 carrying a SCN5A mutation causing Brugada syndrome-BS, 1 carrying 2 mutations in KCNH2 causing long QT syndrome-LQTS, 3 possible LQTS with negative genetic study, 1 suspected BS with negative genetic study), **cardiomyopathies** (2 dilated and 1 hypertrophic cardiomyopathy) and myocarditis in the context of systemic infection (2).
- Males predominate in all groups (12/16).
- Congenital heart diseases have a significant earlier presentation (22 days) than channelopathies-myocarditis (4 months) and cardiomyopathies (7 months).



DISCUSSION: Sudden cardiac death is a common cause of SUID, follow SIDS and infectious diseases. Congenital heart diseases can not be diagnosed during the birth hospitalization because most are primarily ductal dependent defects. Our protocol allows to diagnosis channelopathies and avoid misdiagnosis of unclassified sudden infant death in this cases. Unfortunately, this multidisciplinary study still depends upon research grants and has not been assumed by public institutions.

CONCLUSIONS: Cardiac multidisciplinary approach is pivotal to exclude channelopathies from SIDS series and may yield substantial benefit to the society as long as early diagnosis and treatment can be implemented in the affected living relatives.