Abstract: P2823

Lack of early systematic investigations among young victims of sudden cardiac arrest

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Introduction – Since a large proportion of patients resuscitated from out-of-hospital sudden cardiac arrest (SCA) die in the intensive care unit (ICU), early systematic investigation towards identifying etiology may be crucial to ensure targeted therapy and appropriate future prevention among relatives, especially when the index case is young.

Purpose – We hypothesized that etiologic investigations were not initiated in a timely manner in a significant proportion of young SCA patients, alive at ICU admission, prior to death.

Methods – In this prospective, ongoing, multicenter, population-based registry (6.7 million inhabitants), data from all SCA over a 5-year period were analyzed, in collaboration with all the 48 hospitals of the area, with a specific focus on young patients (<45 year-old) alive at hospital admission and who eventually died prior to ICU discharge. Investigations performed and diagnoses arrived at were analyzed from the medical records by two cardiologists for each case.

Results – Of the 18,622 out-of-hospital cardiac arrests from May 2011 to May 2016, 3,028 were admitted alive to ICU. Among them, 2,190 (72.3%) died in ICU, including 367 (16.8%) young cases (<45 yo). Among the young patients, while 163 cases (44.4%) had a specific diagnosis established, 204 (55.6%) remained unexplained. Coronary angiograms (18.3%), CT scan (brain and chest) (24.5%), and transthoracic echocardiography (29.1%) were all underutilized. Main established SCA causes were acute coronary syndrome (44.5%), followed by structural non-ischemic heart disease (25.5%), pulmonary embolism (13.6%), chronic CAD (10%), non-structural heart disease (1.8%) and miscellaneous (4.6%). The proportion of systematic autopsy (10.9%), as well as blood sample collection for further genetic testing (1.4%) was low.

Information on family screening was rarely provided in the ICU.

Conclusion – More than half of young SCA cases who died in ICU remained unexplained. There was significant underuse of core cardiac investigations. Efforts to promote prompt and systematic investigation through better collaboration between intensivist and cardiologist may improve both acute management and future targeted preventive strategies for family members.