

Sudden death in hypertrophic cardiomyopathy rarely associated with exercise

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Sudden death in patients with hypertrophic cardiomyopathy (HCM) is rarely associated with exercise, according to research presented at ESC Congress 2016 today by Dr Gherardo Finocchiaro, a cardiologist at St George's University of London, UK. Nearly 80% of patients in the study had no symptoms and only one in five had been diagnosed with HCM before their death.

Dr Finocchiaro said: "HCM is an inherited heart muscle disease with variable clinical expression and natural history. It is characterised by hypertrophy of the left ventricular walls ('thick heart muscle'). Sudden cardiac death (SCD) is a relatively common cause of mortality in [patients](#) with HCM. It is caused by fatal arrhythmias which can be effectively treated with implantable cardioverter defibrillators (ICDs)."

"Exercise is considered a trigger of fatal arrhythmias and international recommendations advise patients with a clear phenotypic expression of HCM to avoid competitive sports," continued Dr Finocchiaro. "It is unclear however if SCD occurs more frequently at rest or during [exercise](#) in these patients."

The current study investigated the circumstances and demographics of SCD in 184 HCM patients enrolled from 1994 to 2014 at St George's Hospital Cardiac Pathology centre. All patients underwent a detailed post-mortem examination by an expert cardiac pathologist to confirm

the diagnosis of HCM. Clinical information was obtained from referring coroners. Patients were 39 years of age on average and 70% were men.

Only 20% of patients had an ante-mortem diagnosis of HCM. Just 22% of patients had exhibited cardiac symptoms such as palpitations, dyspnoea, syncope and chest pain.

Dr Finocchiaro said: "Diagnosis is often missed during life and HCM may be a 'silent killer' where the first manifestation of the disease is commonly SCD. In fact patients are often asymptomatic (78% in our study) and the diagnosis may be triggered by an abnormal electrocardiogram done in the context of sport screening or for other medical reasons."

SCD occurred at various ages, with the highest prevalence in the third and fourth decades of life. The majority of patients died during rest (almost 80%). Of the 149 patients who died at rest, 22 (12%) died during sleep. SCD during exertion occurred more frequently in young male patients. Twenty (11%) of [sudden death](#) patients were recreational or competitive athletes.

Dr Finocchiaro said: "Our findings are relatively new and are based on a large sample size. We showed that SCD in HCM occurs relatively rarely during sport activity, but more often at rest and sometimes during sleep."

He continued: "These data suggest that exercise induced SCD is relevant only in young males. Therefore the recommendations to avoid competitive sport in individuals with a clear HCM phenotype should be adjusted according to a risk assessment that considers important variables such as gender and age."

Dr Finocchiaro concluded: "This study shows that sudden death in [hypertrophic cardiomyopathy](#) is rarely associated with exercise and

occurs frequently in patients where diagnosis is missed during life. Better strategies aimed at detecting the disease, even in asymptomatic individuals, are needed. Future prospective randomised studies should assess the benefits and harms/risks of exercise in patients with HCM."

More information: "Circumstances of sudden death in hypertrophic cardiomyopathy. Data from a large pathology registry," ESC Congress 2016.

Provided by European Society of Cardiology

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