

Sudden cardiac death

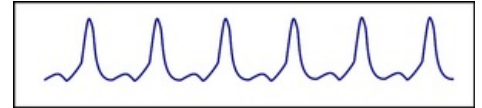
Sudden cardiac death (sudden cardiac death) is a natural death from a cardiac cause that occurs within one hour of the onset of symptoms and the time and manner of death is unexpected. Heart disease may or may not be previously known^{[1][2]}.

In 85% of cases, NSS occurs as a result of malignant arrhythmia (ventricular fibrillation, ventricular tachycardia)^[3].

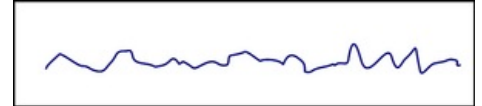
Causes

Based on ECG analysis of resuscitated patients, NSS is believed to be caused by:

- **ventricular fibrillation** (often preceded by ventricular tachycardia) - no.,
- **electromechanical dissociation**,
- **asystole**.



Ventricular tachycardia - scheme



Ventricular fibrillation - scheme

The most common causes of NSS^{[4][5][6]}

He is sick with structural heart disease	Patients without structural heart disease
CHD (acute ischemia, scar after MI)	Long QT Syndrome
Hypertrophic cardiomyopathy	Wolff-Parkinson-White syndrome
Idiopathic dilated cardiomyopathy	Idiopathic ventricular fibrillation (Brugada syndrome catecholamine-dependent familial polymorphic ventricular tachycardia syndrome?)
Arrhythmogenic right ventricular cardiomyopathy	
Valvular defects	
Inflammatory heart diseases	
Amyloidosis/Sarcoidosis	
Coronary artery spasm	
Congenital heart defects (Tetralogy of Fallot, transposition of great vessels, aortic stenosis, pulmonary vascular obstruction)	
Presence of myocardial bridges	

In the context of malignant arrhythmias, cocaine, antiarrhythmics and hypomagnesemia can have a proarrhythmic effect.

Treatment

- Cardiopulmonary resuscitation (Basic Life Support, Advanced Cardiac Life Support).
- Treatment of structural heart disease (if present).
- Implantation of an implantable cardioverter-defibrillator (ICD)/catheter ablation of an arrhythmogenic deposit.

Primary prevention

In high-risk patients, the most effective primary prevention is ICD implantation^[5].

Links

Related Articles

- Ventricular fibrillation
- Antiarrhythmics

References

1. PRIORI, SG. Task Force on Sudden Cardiac Death of the European Society of Cardiology. *Eur Heart J*. 22, vol. 16, p. 1374-450, ISSN 1522-9645. PMID: 11482917 (<http://www.ncbi.nlm.nih.gov/pubmed/11482917>).
2. MEYERBURG, R. *Braunwald Textbook of Heart Disease*. 6. edition. 2001. ISBN 9781416041078.

3. HUIKURI HEIKKI, V. Sudden death due to cardiac arrhythmias. *N Engl J Med*. 2001, y. 345, vol. 20, p. 1473-1482, ISSN 1533-4406.
4. ASCHERMANN, Michael. *Cardiology*. 1. edition. Galen, 2004. pp. 1183-1185. ISBN 80-7262-290-0.
- 5.
6. BRUGADA, P – BRUGADA, J. Right bundle branch block, persistent ST segment elevation and sudden cardiac death: a distinct clinical and electrocardiographic syndrome. A multicenter report. *J Am Coll Cardiol*. 20, vol. 6, p. 1391-6, ISSN 0735-1097. PMID: 1309182 (<http://www.ncbi.nlm.nih.gov/pubmed/1309182>).

References

- ASCHERMANN, Michael. *Kardiologie*. 1. edition. Galen, 2004. pp. 1183-1185. ISBN 80-7262-290-0.