

### **Syncope Unit in pediatric population, a single center experience**

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Introduction: Syncopes are frequent in the pediatric population. The majority is benign but, for a minority of children, a cardiac disease is the underlying cause and has to be recognized promptly as it can be fatal. Syncope units developed in adult population have demonstrated major improvement in diagnostic process, hospitalisation reduction time, with favourable long-term outcome. We report our experience of syncope management in children and adolescents through a dedicated syncope unit.

Methods: This ongoing prospective study enrolled 98 consecutive patients ( $12\pm 3$  years old, 52% male), referred for loss of consciousness (LOC) in a dedicated pediatric syncope unit involving a pediatric cardiologist, a nurse, a physiotherapist and a psychologist. All patients underwent initial evaluation including medical history assessment, physical examination, 12-lead ECG and echocardiography to exclude non-cardiogenic syncopes. If initial assessment was abnormal, they underwent targeted tests that differed according to suspected aetiology. Patients with neurocardiogenic syncope underwent specific physiotherapy training and a consultation with a psychologist.

Results: The most common causes of LOC was neurocardiogenic syncope - 70 patients (71%) and psychogenic LOC - 20 patients (21%). Cardiac syncope was present in 5 patients (5%), 2 had long QT syndromes and received beta blocker therapy, 2 presented third-degree atrioventricular block and had pacemaker implantation and one had catecholergic polymorphic ventricular tachycardia and received beta blocker therapy. Two patients had typical epileptic seizure and were transferred to neurologic department. Mean hospitalization duration was  $0,9\pm 0,5$  days. Head-up tilt testing was positive in 60% neurocardiogenic syncope. Echocardiograms and exercise tests were not contributive for diagnosis. After a mean follow up of  $11\pm 5$  months, including physiotherapist and/or psychologist specific care, syncope recurrence occurred in 11% patients.

Conclusion: Syncope unit in pediatric population with dedicated team improves diagnostic process, reduces hospitalisation and decreases syncope recurrence when adapted follow up is proposed.