

Results In the study period, there were 6 626 OHCA attended by Prague EMS, of which 121 met the criteria of CH-OHCA (1.8%, 0.78 CH-OHCA per 100.000 inhabitants and year). The majority of CH-OHCA occurred in age groups 0–0.99 (35; 28.9%; $p < 0.05$) and 1–1.99 (26; 21.5% $p < 0.05$). In no other age group the number of CH-OHCA exceeded 9 (n/s). No CH-OHCA was witnessed by ambulance personnel. Layperson CPR was performed in 95 cases (78.5%). The first captured rhythm was most often asystole (96; 79.4%). Ventricular fibrillation (VF-first subgroup) as the first rhythm was present in 12 patients (10.0%). The most common cause of CH-OHCA was recorded as unknown (39%). The overall survival rate from CH-OHCA (with CPC 1–2) was 10.7%, in VF-first subgroup it was 41.7%.

Conclusion CH-OHCA is relatively rare event. The most vulnerable group is children under 2 years of age. Small children are most frequently found in asystole, while VF occurs more frequently in age over 15. Even though CH-OHCA is uncommon in pre-hospital setting, everyone in the emergency service must be adequately trained for it.

Conflict of interest None

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37 A CENTRALISED INTER-FACILITY PATIENT TRANSFER SERVICE IN SOUTHERN FINLAND -THE HELSINKI EXPERIENCE

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Aim Inter-facility patient transfers form an important share of out-of-hospital patient transport. In many countries these transfers are commonly done by small ambulance companies and by the local emergency medical services. The aim of this observational study was to report the operation of the only centralised inter-facility transfer service in Finland.

Method Helsinki University Hospital patient transfer service is responsible of all inter-facility transfers in the region with 1.6 million inhabitants. During a three-month cohort (1.9–31.11.2016) all patients transferred by the transfer service ambulances were selected for the study. The patient reports were collected and quality deviations during transport were registered based on predetermined criteria.

Results In a total of 3034 transfers, lights and sirens were required in 73 (2.4%) cases. In 45 (1.5%) transfers the patient was accompanied by a physician and in 35 (1.1%) a nurse from the referring hospital. The most common issues requiring treatment during transport were pain (numeric rating scale ≥ 4) in 191 (6.3%) and hypoxemia in 119 (3.9%) transfers. Moreover, 147 (4.8%) patients carried microbes important for hospital hygiene. Quality deviations were registered in 338 transfers (8.4%). The most common deviations were insufficient or missing written reporting in 244/338 cases (72.2%). Problems were also encountered with patient monitoring and treatment in 80/338 transfers (23.7%). Adverse events were registered during 16 transfers (0.5%).

Conclusion In daily inter-facility transfer service operations, the need for lights and sirens was uncommon. Acute pain and hypoxemia were the most common issues to be addressed during transport. Adverse events were rare.

Conflict of interest None

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38 HEART RATE VARIABILITY AND PRE-HOSPITAL RISK STRATIFICATION OF CHEST PAIN PATIENTS

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Aim Assessment of chest pain patients often requires extensive investigations, while existing risk-scores are designed for use in Emergency Departments (ED). We aim to develop a risk score for chest pain patients in pre-hospital settings and ambulances by utilising heart rate variability (HRV), a rapid, non-invasive reflection of cardiac stress states.

Method This study analysed 902 chest pain cases presenting to Singapore General Hospital (SGH) ED between 2010 and 2015. The data was divided into a model derivation set (616 cases, 32% meeting outcomes) and a validation set (286 cases, 28.7% meeting outcomes). HRV Prediction Model (HRV-PM) for 30 day Major Adverse Cardiac Events (MACE) was derived using backward-stepwise logistic regression. HEART, TIMI and GRACE scores were used as comparators for the HRV-PM.

Results In the derivation set, 66.9% of patients were male, with a mean (SD) age of 60.71 (12.97). HRV-PM encompasses 9 parameters: 6 HRV variables (triangular interpolation of normal-to-normal intervals, total power, very-low/low/high-frequency power, approximate entropy), and 3 ECG variables (ST-elevation, ST-depression, Q-wave). Validation of HRV-PM shows similar performance to HEART for 30 day MACE prediction with Area Under Receiver-Operating-Curve (AUC) of 0.737 (95% CI: 0.673 to 0.800) versus 0.739 (95% CI: 0.679 to 0.799). The addition of 1 set of troponin results in HRV-PM improves the AUC to 0.749 (95% CI: 0.686 to 0.813), thereby outperforming HEART.

Conclusion HRV-PM is a simple, non-invasive test demonstrating comparable performance with HEART without need of blood-tests. We hope to validate and apply HRV-PM for assessment of chest pain patients by EMS in pre-hospital settings including ambulances.

Conflict of interest None

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39 BYSTANDER CPR IN OUT-OF-HOSPITAL CARDIAC ARREST IN SINGAPORE: AGE AND OTHER PREDICTIVE FACTORS

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