Conclusion:

The aim of the study is to describe the situation with out-of hospital sudden cardiac death (SCD) in Eastern Bohemia region and to evaluate the quality of pre-hospital care in this group of patients. Data were collected during 2004-2007 within 26 months.

The group consists of 703 patients, predominantly males (n = 501, 71,3%) in average age 67±13 years. The basic demographic data of our patient group are comparable with those described in the literature The incidence of SCD increases continuously with maximum between 60 - 69 years of age in males and 70 - 79 years of age in females. Circadian

variability with the maximum at 8 am is seen. Majority of patients were affected withindoors (n = 487; 69,3%). Coronary heart disease as a main etiological factor was approved, being confirmed in 581 (82,6%) victims. The arrest was witnessed in 495 (88%) cases. Advanced life support (ALS) was instituted in 560 (79.9%) patients. Those patients were younger in comparison with those whom ALS was not provided (median of age 68 versus 74 years; p < 0,001) and more often presented with ventricular fibrillation (VF), p < 0,001. Return of spontaneous circulation was achieved in 221 (39,5%) patients. Majority of patients (n = 350; 62,5%) died in the field, another 61 (10,9%) died during the medical transport and 96 (17,1%) in the hospitals, respectively.

As the strong factors affecting prognosis were established: SCD indoors, ROCS, VF, arrival time within 6 min (all p < 0,001), institution of basic life support (p = 0,002), cardiac arrest during the daily hours (p = 0,01), amiodarone institution in refractory VF (p = 0,03), witnessed arrest (p = 0,04), early defibrillation (p = 0,05).

Median time from arrest to professional treatment was 15 min, average interval 35 min, significantly longer during the night (15 vs 18 min; p = 0,01). Longer arrival time resulted in a higher proportion of asystole and lower proportion of VF (p < 0,001). Median time from arrest to the emergency call was 7 min, median exit time of the rescuers was 1 min, and median arrival time was 8 min (all times significantly longer during the night).

As evaluated by the venous access installation (98%), ECG monitoring during the medical transport (89,5%) and antiarrhytmic drug administration (69%), a very high degree of adherence to guidelines was confirmed. Marked differences in the exit times (0,5 – 4 min; p < 0,001, arrival times (6 – 13 min; p < 0,001) were detected.

Quality of care as evaluated by the time intervals mentioned earlier, by adherence to the guidelines and the mortality rate may be assessed as very high. The access to the medical care is significantly limited during the night period.