

Cardiopulmonary arrest is the most frequent cause of the unresponsive wakefulness syndrome: A prospective population-based cohort study in Austria

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Background The “Unresponsive wakefulness syndrome” (UWS) or previously termed vegetative state is a possible consequence of severe brain damage where individuals just open their eyes but show no conscious behavioural reaction. While head trauma has previously been considered the prevailing cause, clinical experience suggests shows that cardiopulmonary arrest plays an increasingly important role. We therefore attempted to study this hypothesis in a well-defined region of Austria.

Methods Prospective population-based cohort study to calculate the incidence and aetiologies of the UWS. All facilities in the state of Styria (n=38), which are involved in the medical care of patients with brain damage, participated. Among the adult population of Styria (n=1.010.164) we identified all individuals who developed UWS over a one year period. The diagnosis was based on a formal neurologic evaluation at least 4 weeks after the brain damage and had to be in line with the criteria of the “Multi-society Task Force on Persistent Vegetative State”.

Results We identified 19 individual with UWS which correspond to an annual incidence of 1.88/100000 people. Male gender predominated (78.9%) and the mean age was 57.8 years (age range 18-78 years). The most frequent cause of UWS was cerebral hypoxia in the wake of cardiopulmonary resuscitation (63%), cerebral bleeding (21%) and brain trauma (16%).

Conclusions Cardiopulmonary resuscitation has become the major cause of UWS which leads to an increasing incidence with age. These aspects may become even more prominent with the ageing of our population and need to be considered in the organisation of care.