Szpilman D, Idris A & Cruz-Filho FES. Position of Drowning Resuscitation victim on Sloping Beaches. World Congress on Drowning, Netherlands 2002, Poster presentation

ABSTRACT

Purpose: For centuries, people have thought that water should be drained from the lungs of a drowning victim. In the 18th century, this was the main reason for setting the victim’s head down (HD) on sloping beaches. This position was used by the Rio de Janeiro-Lifeguard-Service (Brazil) until 1992. However, such risks as regurgitation and increased difficulty to ventilate a patient in the HD position were not considered. Based on these considerations, lifeguards started to place the head at the same level as the trunk (HT). The objective of this study was to determine which position is best for initial resuscitation on sloping beaches.

Method: We conducted a prospective study from January 1993 to December 2000, comparing cases of HD with HT position, randomly chosen by lifeguards. All rescues were evaluated, but only patients with cardiopulmonary arrest (CPA) were included. We excluded all those in which no attempt of resuscitation was made and those with missing data. Each group was analyzed considering, sex, age, type of water, time of attendance, vomiting, estimated time of CPA and cardiopulmonary resuscitation (CPR), and mortality. Using 'Mantel-Haenszel' method, $X^2$, relative risk and the $P$ value were evaluated. $P<0.05$ (95% confidence limit) was considered statistically significant.

Results: From 126 cases, 84 were selected. The average age was 25.7 (SD +/- 12.6), and males appeared 9 times more often. There were 11 (13.1%) fresh and 73 (86.9%) seawater cases. From pre-hospital attendance, 66.7% died, 29.8% were referred to the hospital and 3.5% were released home. At the final follow up, there were 73 (87%) deaths. The two groups, HD (N=39) (46%) and HT (N=45) (64%) had no significant differences in, sex, time of attendance, age, mean time of CPA (18/21min), mean time of CPR (37/40 min), and seawater drowning (38/35) ($P>0.05$). Regurgitation was present in 87% of HD compared with 16% of HT patients ($P<0.00001$, $X^2=42.39$, RR=5.60 (2.81-11.19)). Final mortality was: HD-95% (37) and HT-80% (36) ($P<0.05$, $X^2=4.01$, RR=1.19).

Conclusions: Regurgitation is much more likely to occur when the HD position is used and the risks of aspiration and impaired ventilation and oxygenation are also increased. On sloping beaches drowning victims should be placed parallel to the waterline. This position decreases the incidence of vomiting and mortality.

Topic codes: 403