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AWARE-AWAreneSS during REsuscitation-a prospective study

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Abstract

Background: Cardiac arrest (CA) survivors experience cognitive deficits including post-traumatic stress disorder (PTSD). It is unclear whether these are related to cognitive/mental experiences and awareness during CPR. Despite anecdotal reports the broad range of cognitive/mental experiences and awareness associated with CPR has not been systematically studied.

Methods: The incidence and validity of awareness together with the range, characteristics and themes relating to memories/cognitive processes during CA was investigated through a 4 year multi-center observational study using a three stage quantitative and qualitative interview system. The feasibility of objectively testing the accuracy of claims of visual and auditory awareness was examined using specific tests. The outcome measures were (1) awareness/memories during CA and (2) objective verification of claims of awareness using specific tests.

Results: Among 2060 CA events, 140 survivors completed stage 1 interviews, while 101 of 140 patients completed stage 2 interviews. 46% had memories with 7 major cognitive themes: fear; animals/plants; bright light; violence/persecution; déjà-vu; family; recalling events post-CA and 9% had NDEs, while 2% described awareness with explicit recall of 'seeing' and 'hearing' actual events related to their resuscitation. One had a verifiable period of conscious awareness during which time cerebral function was not expected.

Conclusions: CA survivors commonly experience a broad range of cognitive themes, with 2% exhibiting full awareness. This supports other recent studies that have indicated consciousness may be present despite clinically undetectable consciousness. This together with fearful experiences may contribute to PTSD and other cognitive deficits post CA.