

Efficacy of Therapeutic Hypothermia in the Post Cardiac Arrest Syndrome due to VF

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Aims: We investigated the implementation and efficacy of mild therapeutic hypothermia (TH) in the treatment post- cardiac arrest syndrome due to ventricular fibrillation.

Materials and methods: Two periods were compared, an historical one (15 patients) between June 2005 and April 2008, where TH was never used, and a recent period (22 patients) between May 2008 and October 2010 where mild TH (32–34°C) was implemented prospectively in our unit. Cooling induction was obtained by 4°C saline infusion at large amounts in parallel with cooling jacket. Temperature maintenance performed only with the jacket, and rewarming started after 24 hours of cooling by a rate of 0.3°C per hours. Survival in the two groups and factors associated with survival were analyzed, together with the neurological prognosis in discharged patients.

Results: TH was well tolerated and was associated with a significant improvement in neurological outcome. Survival rates at 6 months were higher in the hypothermia group (72% versus 53%). When comparing the neurological outcome, the majority of the living patients in the TH group returned to nearly normal neurological status (87.5% versus 50%). Severe neurological disability or comatose patients were more frequent in the control group (50% versus 12.5%). In the TH group, automatic defibrillator was implanted in 8 patients, and 4 underwent complete revascularization.

Conclusion: TH is safe and efficient in improving survival and neurological outcome of post-cardiac arrest syndrome with ventricular fibrillation. This simple method can be implemented easily and quickly, with minimal and controllable side effects for these patients.