THE RESTE COURSE: 6-HOURS COURSE ON RESUSCITATION AND RESTERNOTOMY AFTER CARDIAC SURGERY

Arlotta G.¹, Verdicchio L.¹, Gaetani G.¹, Di Cola R.¹, Buralli D.¹, D'Antonio D.¹, Balducci F.¹, Mazza A.¹, Nesta M.¹, Cavaliere F.², Martinelli L.², Calabrese M.¹, Antonucci ME.¹, Guarneri S.², Corrado M.², De Paulis S.¹, Zamparelli R.², Conti F.¹, Corsi F.¹, Bevilacqua F.¹, Scapigliati A.²

1. "A.Gemelli" University Hospital IRCCS, Rome, Italy. 2. Catholic University of Sacred Heart, Rome, Italy

PURPOSE OF THE STUDY

The aim of the study is to adapt current Cardiac Arrest Following Cardiac Surgery (CAFCS) and Emergency Resternotomy (ERS) protocols to resources usually available in an 8 beds ICU, and evaluate the improvements in scenarios of simulated CAFCS and ERS during a 6-hours course using cost-effective low fidelity simulation.

MATERIALS AND METHOD

A multi-professional team (anaesthesiologist, ICU and OR nurses, surgeons and perfusionists) analysed and adapted current protocols on CAFCS and ERS to local resources and set up a 6-hours course including skill stations and scenarios. A cheap and effective sternal simulator was designed and tested.

A pre and post-course MCQ was administered to participants: difference in score was analysed with Wilcoxon signed-ranks test.

CAFCS scenarios pre and post skill station were videotaped and time from ERS decision to chest reopening, time to first incision and time from incision to internal massage were assessed. Data are presented as mean and standard deviation and paired t tests were calculated. Candidates' perception about course quality was investigated through a satisfaction survey.

RESULTS

32 ICU nurses attended the course. *Content knowledge increased significantly after the course (85,9 % $\pm$ 9,7 vs 60 % $\pm$ 16,2; $p < 0,001$).*

Time from decision to chest reopening was significantly low after skill station (256,1 $\pm$ 39 vs 372,8 $\pm$ 89,1 sec; $p < 0,001$) as well as time to first incision (194,5 $\pm$ 57,4 vs 283,5 $\pm$ 77,7, $p < 0,001$) and time to internal massage (77 $\pm$ 16,9 vs 88,1 $\pm$ 20,1, $p < 0,02$). All candidates expressed high satisfaction with respect to course relevance and methodology.

CONCLUSIONS

A 6-hours course on resuscitation in CAFCS and ERS adapted to local resources demonstrated to be feasible, appreciated and effective in skill and knowledge acquisition. Larger implementation is needed to confirm our preliminary results.

Five key roles in the Cardiac Arrest for Cardiac Surgery

Five key roles in RESTE course

1. Team Leader/ airway and breathing/ resternotomy
2. External cardiac massage
3. Defibrillation and Drugs
4. Sternotomy Trolley
5. Dressing and equipment support