Cardiac arrests: analysis, trends and the role of the MDT

Introduction

An on-going resuscitation audit at North Tees and Hartlepool Foundation Trust since 2006 aimed to collect data and highlight areas of improvement through the review of cases. The Counting your calls 2010 initiative saw sub-categorisation of arrests with the inclusion of avoidable deteriorating physiology, sudden catastrophic event and expected death. Since January 2012 monthly MDT's have reviewed all cardiac arrest cases across both sites. Data has been collected utilising auditing criteria developed based on the external recommendations from audit reports by the Resuscitation Council (UK) and ICNARC and NCEPOD and deciding right.

The trust consists of two DGH hospitals covering a catchment area of approximately 300,000. The trust joined the NCAA from April 2012. All staff are trained in compulsory BLS, ILS and AIMS. Advanced life support is mandatory for specific staff who respond to cardiac arrests.

Method

Current audited data was reviewed to analyse the trend and effect of the implementation of different strategies over a five year period. From 2008-2010 data was based on '2222' calls and completed cardiac arrest forms. As of 2010 retrospective review of all cardiac arrests by resuscitation officers was implemented utilising a standardised pro-forma. MDT reviews initially consisted of outreach nurses and resuscitation officers, regular consultant input was introduced from October 2012.

Results

- Diminishing trend in total cardiac arrest calls between 2008-2012, a decrease of 38%.
- Improved data collection – 100% of data collected over the last two years.
- Diversity in information being collected including ‘avoidable deteriorating physiology’ from 2010.
- 2012-2013 saw a rise in cardiac arrest calls and actual cardiac arrests.
- Cases of ‘avoidable deteriorating physiology’ rose by 9 in 2012-2013. This was an increase of three fold on the previous year per cardiac arrest.
- DNACPRs dropped by 45% in the last year.

Discussion

Since the introduction of the resuscitation audit there have been dramatic improvements in the number of cardiac arrests and data collection through efforts of the resuscitation team. Introduction of the monthly MDT review saw a rise in the number of cardiac arrests and expected deaths whilst the number of catastrophic events has continued to fall. This is in keeping with a dramatic fall in the number of DNACPR's over the same period. Recent change from the DNAR to DNACPR form occurred in August 2012.

Of note has been the significant rise of three fold in the number of cardiac arrests linked to avoidable deteriorating physiology. This is likely a reflection of the skill mix used in the MDT to retrospectively assess each cardiac arrest identifying patients whom may not have been previously detected.

This is the first year that has included cardiac arrests related to both ‘avoidable’ and ‘unavoidable’ deteriorating physiology. Unavoidable involves those that are well managed but continue to deteriorate despite best efforts. Both categories contain important lessons that can be fed back into staff training as part of continued professional development.

Conclusion

Improved methodology of data collection with active feedback into education and training has led to a decline in the number of cardiac arrests. Introduction of a monthly MDT review of cases has increased the number of cardiac arrests related to avoidable deteriorating physiology being detected.

References