

1. Good Outcome Following Out of Hospital Cardiac Arrest in a Child with Long QT Syndrome

- **Richard M Beringer, Clinical fellow, Paediatric Intensive Care Unit, Bristol Royal Hospital for Children**
 - **James Fraser and Andrew Gibson Paramedic Officer.**
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Bristol Royal Hospital for Children, Marlborough Street,
Bristol, BS2 8BJ

EDITOR - The study by Pell et al[1] and the subsequent editorial by Engdahl[2] both highlight the importance of effective bystander cardiopulmonary resuscitation and early defibrillation in adult out of hospital cardiac arrest. We would like to report a recent paediatric case of an out of hospital cardiac arrest that supports the conclusions of these articles, and emphasises the importance of Advanced Life Support techniques in out of hospital paediatric resuscitation.

A previously well 6 year old girl collapsed at home with a cardiorespiratory arrest. Her mother and aunt were present and immediately called 999 for an ambulance. While waiting they were instructed over the telephone how to perform basic life support. Within 5 minutes, a paramedic with training in paediatric resuscitation arrived at the scene. ECG monitoring initially demonstrated asystole and then ventricular fibrillation (VF) which returned to asystole following a single shock from a biphasic defibrillator. With assistance from a second ambulance crew he intubated the child and gained central and intraosseous access for administration of adrenaline (epinephrine) and a bolus of fluid. Cardiopulmonary resuscitation (CPR) was continued throughout. After approximately 10 minutes of advanced life support she regained a cardiac output.

She was subsequently transferred to the Emergency Department and then to our Paediatric Intensive Care Unit. An ECG confirmed the diagnosis of Long QT Syndrome and she was commenced on beta blockers. Following standard cerebral protective intensive care, she was extubated at 72 hours. An implantable cardioverter defibrillator (ICD) was inserted prior to discharge from hospital and four weeks after the event she has made a full recovery.

Traditionally out of hospital cardiac arrests in children carry a very poor prognosis[3]. This case highlights several important points.

Firstly it should be recognised that with increased survival following paediatric cardiac surgery, primary arrhythmias are now a more frequent cause of cardiac arrest than previously thought[4]. Henceforth ambulance and other first responders to paediatric out of hospital cardiac arrest need to be alert to the presence of a treatable dysrhythmia.

Secondly, although effective bystander CPR remains the cornerstone of effective resuscitation practice, the provision of advanced life support was critical to the successful outcome in this case. Unfortunately suitably trained paramedic staff with skills in paediatric advanced life support are in short supply and therefore formal training in such techniques should be made more widely available.

R Beringer. Clinical Fellow in Paediatric Intensive Care
Bristol Royal Hospital for Children, Upper Maudlin
Street, Bristol, BS2 8BJ.

A Gibson. Paramedic Ambulance Officer and
Community Response Co-ordinator Ambulance
Headquarters, Marybush Lane, Bristol, BS2 08T.

J Fraser. Consultant in Paediatric Intensive Care Bristol Royal Hospital for Children, Upper Maudlin Street, Bristol, BS2 8BJ.

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2. Engdahl J. Outcome after cardiac arrest outside hospital. *BMJ* 2002;325:503-4

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Competing interests: None declared

Editorial note

The parent of the child whose case is described in this response has given signed informed consent to publication.