THE USE AND IMPACT OF 12-LEAD ELECTROCARDIOGRAMS IN ACUTE STROKE PATIENTS: A SYSTEMATIC REVIEW

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Aim Stroke is a leading cause of mortality and disability across the globe. Emergency Medical Services assess and transport a large number of these patients in the prehospital setting. Guidelines for UK ambulance services recommend recording a 12-lead electrocardiogram in the prehospital environment, providing this does not add to significant delay in transporting the patient to hospital; however, this recommendation is not based on any evidence.

Methods A systematic review was conducted to search and synthesise the literature surrounding the use of prehospital electrocardiograms in acute stroke patients, focusing on the prevalence of abnormalities and their association with prognosis and outcome. Online databases, references from selected articles and hand searches were made to identify eligible studies. Two authors independently reviewed the studies to ensure eligibility criteria were met. Main outcomes were presence of abnormality on electrocardiogram, mortality and disability. No studies set in the prehospital environment were found by the search; therefore the eligibility criteria were widened to include hospital-based studies. A total of 18 studies were subsequently included in the review.

Results Although the prevalence of electrocardiogram abnormalities appears common in hospitalised patients, their prognostic impact on mortality, disability and other adverse outcomes is conflicting amongst the literature. There is a lack of research surrounding the use of prehospital electrocardiogram in acute stroke patients.

Conclusion Future studies should be based in the prehospital environment and should investigate whether undertaking an electrocardiogram in the prehospital setting affects clinical management decisions or has an association with mortality or morbidity.

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DOES CURRENT PRE-HOSPITAL ANALGESIA EFFECTIVELY REDUCE PAIN IN CHILDREN CAUSED BY TRAUMA WITHIN A UK AMBULANCE SERVICE: A SERVICE EVALUATION

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Aim Analgesic treatment of pre-hospital injured children is viewed as 'suboptimal' with few receiving analgesia. The aim of this study was to explore current analgesia given to traumatically injured children in the pre-hospital setting and examine whether a clinically meaningful reduction in pain was achieved.

Methods We evaluated electronic patient report forms over a two year period (2013 and 2014) within a UK ambulance service NHS trust. All traumatically injured children within the age range of 1 to 17 with a clinical impression of a fracture, dislocation, wound or burn were included. Patients with a Glasgow Coma Scale of <15 were excluded. The outcome measure was a reduction in numeric pain rating scale or Wong and Baker faces of ≥2 out of 10.

Results Of the evaluable patients (n=11,317), 90.8% had a documented pain score, or a reason why a pain score could not be documented. For patients reporting pain (n=7,483), 51.6% (n=3,861) received analgesia, 9.6% (n=717) received no analgesia but did receive alternative treatment and 38.8% (n=2,905) received no analgesia and no alternative treatment. Morphine sulphate IV, oral morphine, Entonox, paracetamol suspension and poly-analgesia all achieved a clinically meaningful median reduction in pain score.

Conclusion Analgesia administered to traumatically injured children in the pre-hospital setting within this UK ambulance service NHS trust does produce clinically meaningful reductions in pain. The concern is that a large number of patients received no analgesia or alternative treatment. There is a real need to identify barriers to analgesia administration in this patient group.

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