



### **Radiologic Imaging in Immobilized Pediatric Trauma Patients**

Pediatric trauma patients with cervical spine immobilization using a cervical collar often require procedural sedation for radiologic imaging. It is difficult for the emergency physician to perform airway maneuvers in an immobilized patient. This study, based on a medical record review, describes a large population of cervical spine immobilized patients at a regional pediatric trauma center. The results of the study reveal that of the 1898 imaging encounters that met inclusion criteria, 91.5% of the patients required a single sedative or analgesic and 8.5% required more than one medication to complete their procedure successfully.

### **Detecting AF in Patients with Cardiac Implantable Devices**

Clinical guidelines emphasize identifying atrial fibrillation (AF) as a strategy to reduce stroke risk. Cardiac implantable electronic device (CIED) interrogation at the point-of-care may facilitate detection of AF, increasing opportunities to identify patients at high risk for stroke. This retrospective observational study sought to quantify the prevalence of AF and assess stroke risk in patients with a CIED who presented to the emergency department (ED) for any reason. The ED incorporated device interrogation as a routine standard practice for all patients with a CIED. Device interrogations were conducted in 494 unique patients for the study. Atrial fibrillation was detected in 54.8% of the patients; for 22.3% of the patients, this was a new diagnosis (ie, the patients had no past history or current diagnosis of AF). Using risk scoring methodology, over three-quarters of these newly detected AF patients were classified in a high stroke risk category. Furthermore, over half had presented to the ED for reasons unrelated to cardiac dysrhythmia problems.

### **Analgesic Effect of Nitrous Oxide/Oxygen Mix for Traumatic Pain**

The aim of this study was to evaluate the safety and analyze the effect of a fixed nitrous oxide/oxygen mixture for trauma patients in the ED. In this double-blind, randomized study, the treatment group received conventional pain treatment plus a mixture of 65% nitrous oxide/oxygen, and the control group received the conventional treatment for pain plus oxygen (placebo). Initial pain scores for the two groups were comparable, but pain intensity was significantly lower in the treatment group at T1 (5 minutes) and T2 (15 minutes). There were no serious adverse effects reported. The results of this preliminary clinical trial demonstrate that the 65%

nitrous oxide/oxygen treatment was more efficacious than placebo in treating moderate-to-severe traumatic pain in the ED.

### **Can Systemic Thrombolysis Improve Prognosis of Cardiac Arrest Patients During CPR?**

A systematic review and meta-analysis were performed to answer this question. Nine studies were identified in the literature that discussed thrombolysis during cardiopulmonary resuscitation (CPR) in cardiac arrest patients, encompassing a total of 4384 patients. These data, including 1084 patients receiving systemic thrombolysis and 3300 patients receiving traditional treatments, were pooled in the meta-analysis. The results showed that, when compared to conventional therapies, the use of systemic thrombolysis during CPR did not significantly improve survival to hospital discharge, or to 24 hours. Further, there were high hospital admission rates as well as a higher risk of bleeding in the patients receiving thrombolysis.

### **The Role of Thrombolysis in Intermediate Risk Pulmonary Embolism**

To address this issue, a literature search was conducted and a review was performed, resulting in 13 studies for review, 6 prospective and 7 retrospective. This article is published as a clinical practice statement by the American Academy of Emergency Medicine (AAEM) Clinical Guidelines Committee. Evidence-based recommendations are provided for the emergency physician. The literature review showed that thrombolysis, either catheter directed or systemic, is a treatment option for patients with intermediate risk pulmonary embolism and a high likelihood of deterioration. Each method of thrombolytics carries risks and benefits. Based on the available evidence, transfer to a facility for the purpose of catheter-directed thrombolysis is not recommended.

### **Neurologic Emergencies Presenting as Trauma Activations**

To determine the prevalence of neurologic emergencies in patients presenting to an urban Level 1 trauma center as trauma team activations, a retrospective review of trauma registry data for the years 2011-2016 was performed. The results showed that there were 18,859 trauma activations during the study period, of which 117 (0.6%) represented a neurologic emergency. These included ischemic stroke (45%), intracranial hemorrhage (34%), subarachnoid hemorrhage (13%), and status epilepticus (9%) patients.