

density in the vicinity of the spinal canal near T10. For nearly two hours, efforts were made to identify and remove the FB. These efforts were unsuccessful. The following day, a 4 x 6 x 34 mm sharp glass fragment was removed under fluoroscopy in the operating room.

**Conclusions:** Patients with glass FBs in soft tissues that are missed in the emergency department have a high risk of mortality and morbidity related to migration in the late period according to their location and form. Widespread use of ultrasound by emergency physicians and training programs have the potential to reduce the significant morbidity, costs, and risk to be exposed to radiation, and they provide the possibility to determine and remove missed FBs in early stages.

**Keywords:** emergency department; foreign body; glass; hospital; soft tissue injuries

*Prehosp Disast Med* 2007;22(2):s85–s86

#### (149) How to Improve Assessment of Tetanus Immunity in the Emergency Room: A Prospective Cost-Effectiveness, Double Blind Study

M.S. Stubbe;<sup>1</sup> R. Swinnen;<sup>2</sup> D. Desruelles;<sup>2</sup> E. Brasseur;<sup>2</sup> L. Mortelmans;<sup>2</sup> M. Vranckx;<sup>2</sup> P. Lheureux<sup>2</sup>

1. Erasme University Hospital, Brussels, Belgium
2. Belgium

**Background:** In case of injury, the choice of prophylaxis against tetanus depends on the patient's vaccination history, which may be unreliable. In order to improve the evaluation of tetanus immunity, the use of a rapid immunoassay (Tetanus Quick Stick<sup>®</sup>, (TQS)) as well as some demographic characteristics are helpful to avoid inadequate prophylaxis and cost.

**Objective:** The objective is to evaluate the contribution of TQS to the choice of prophylaxis, and to perform a cost-effectiveness analysis. The final purpose is to define the place of TQS in a modified algorithm for emergency room (ER) assessment of tetanus immunity.

**Method:** In a Belgian multicentric, prospective, double-blind study, 611 adult patients with injuries were included in five centers; 507 (83%) of the records were valid. The TQS was performed by a nurse before the vaccination history and the choice of prophylaxis was made according to the official algorithm by a doctor who was unaware of the TQS result.

**Results:** Overall, seroprotection was 74.1%, but this varied significantly among centers from 58.2 to 84.0% ( $\chi^2 < 0.001$ ). Immunity decreased with females and with increasing age. Protection according vaccination history was negative or unknown in 33.9% of patients and positive in 66.1%, with 57.9% and 82.1% positive TQS, respectively. Cost-effectiveness analysis suggests a 25% economy by using the test in patients <60 years of age, with injuries at risk and negative or unknown vaccination history.

**Conclusion:** In selected patients, TQS is a cost-effective tool to evaluate tetanus immunity. An algorithm is proposed for ER assessment of tetanus immunity which integrates age and TQS result.

**Keywords:** algorithm; cost-effectiveness; prophylaxistetanus; vaccination

*Prehosp Disast Med* 2007;22(2):s86

#### (150) Are Initial pH Levels and Sodium Bicarbonate Administration Related in the First Return of Spontaneous Circulation in Out-of-Hospital Cardiac Arrest Patients?

C.W. Hsu;<sup>1</sup> S.H. Tsai;<sup>2</sup> S.J. Chu<sup>2</sup>

1. Taipei, Taiwan
2. Department of Emergency Medicine, Tri-Se, Taipei, Taiwan

**Objective:** The relationship between initial pH levels and sodium bicarbonate administration with first return of spontaneous circulation (ROSC) in out-of-hospital cardiac arrest (OHCA) patients in the emergency department (ED) was assessed.

**Methods:** A one-year, retrospective, cohort study was conducted. Patients with OHCA were recruited from 01 January 2005–31 December 2005. All eligible subjects in the ED were stratified into two groups if there was ROSC. Baseline characteristics were registered before ROSC; these included: age; gender; medical history; initial electrocardiographic rhythm; beginning time of cardiopulmonary resuscitation (CPR); and advanced cardiac life support (ACLS); beginning time of first dose of epinephrine and bicarbonate; total doses of epinephrine and sodium bicarbonate; and initial pH value. Analysis of the differences between groups were tested using an independent *t*-test on continuous data or a Chi-Square test in categorical data.

**Results:** A total of 90 eligible subjects (48 men and 42 women, mean age: 67.1 ±18.2 years) were recruited. The gender, percentages of sodium bicarbonate administration, initial rhythm of cardiac arrest, beginning time of CPR and ACLS, beginning time of first epinephrine, and total doses of epinephrine, were similar between groups. The initial pH value of the ROSC group was higher than those without: 6.990 ±0.224 vs. 6.87 ±0.253. The total dose of sodium bicarbonate administration was higher in the ROSC group compared to those without: 1.84 ±3.11 vs. 0.8 ±1.98.

**Conclusions:** A high initial pH level in the ED is an important predictor of ROSC in patients with OHCA.

**Keywords:** cardiac arrest; emergency department; epinephrine; pH levels; sodium bicarbonate; spontaneous circulation

*Prehosp Disast Med* 2007;22(2):s86

#### (151) Management of the Airplane Crash in Marathon (Helios Airlines)

S. Papanikolaou;<sup>1</sup> P. Efsthathiou;<sup>2</sup> S. Spirou;<sup>3</sup> A. Georgiadis;<sup>2</sup> C. Gogosis;<sup>3</sup> O. Daligarou;<sup>2</sup> N. Michos;<sup>3</sup> S. Papanikolaou<sup>3</sup>

1. Athens, Greece
2. National Health Operation Center, Athens, Greece

**Objective:** Present of the management of a major accident with mass injuries.

**Conditions:** On the 14 August 2005, a Cypriot airlines "Helios" passenger airplane crashed in the region of Marathonas. The NCHS received a briefing on the incident and was called to manage a sudden-onset incident, which consisted of an unknown number of heavily injured or dead people. It also was called on to coordinate the involved institutions, with the objective of treating the most injured people, the management of the dead, and the psychological support of relatives and friends of the victims.