

# ABSTRACTS

Peter Rosen, MD — editor

Director of the Division of Emergency Medicine,  
Denver General Hospital

Frank J. Baker, II, MD — assistant editor

Associate Professor and Director, Department of Emergency Medicine,  
University of Chicago Hospitals and Clinics

## Status epilepticus: Causes, clinical features and consequences in 98 patients, Aminoff M, Simon R, *Am J Med* 69:657-666, (Nov) 1980.

Ninety-eight cases of status epilepticus were reviewed. Patients less than 14 years old were not considered. Previous seizures had occurred in 52% of patients. In this group, status was attributed partially or completely in 27 cases to inadequate anticonvulsant therapy; in 11, to alcohol withdrawal; and in 11, the etiology was unclear. Cerebrovascular accidents were implicated in four cases, metabolic causes in three, and trauma in one. Of the 48 patients with no prior seizure history, 11 were due to cerebrovascular disease, 10 to drug overdose, and five to metabolic disorders. Alcohol was contributory in only four cases. CNS infections also accounted for four cases, as did cardiac arrest and head trauma. Etiology remained undiagnosed in four cases. In all four cases of tumor, status was the presenting feature, and there was frontal lobe involvement. In a previous study, tumor in a frontal location occurred in 74% of patients with tumor presenting as status. Metabolic causes included hyponatremia, hypocalcemia, hypoxia, hypoglycemia, hyperosmolarity, lactic acidosis, hypothermia, and hypothyroidism. Drug overdoses included INH (3), aminophylline (2), lidocaine, amitriptyline, thioridazine, and Somnex®. The authors did not find that occurrence of focal seizures correlated reliably with the presence of an underlying structural CNS pathology. There were no long-term effects of the status evident in 71% of patients. Of the 10 patients with sequelae, intellectual impairment was the most common symptom. In most cases status lasted less than 2 hours, but sequelae and other complications were most common in those of longer duration. Fever was common even in the absence of infection, and leukocytosis occurred in 63%. A CSF pleocytosis occurred in 18%, and in eight cases the CSF protein was mildly elevated. (*Editor's note: An interesting article on the causes of status epilepticus, as most authorities do not consider alcohol withdrawal to be a cause. In fact, it has been said that alcohol withdrawal usually causes only one seizure and rarely more than three or four. Regardless, more than 10% of patients in this series had status epilepticus thought to be caused by alcohol withdrawal.*)

Carla Janson, MD

## status epilepticus

## The role of emergency room thoracotomy in trauma. *J Trauma* 20:848-855, (Oct) 1980.

A retrospective study of 175 patients undergoing emergency department thoracotomy at San Francisco General Hospital is presented. Several patients who underwent thoracotomy for medical reasons were excluded from analysis. Thirty-three patients left the hospital alive for an overall survival rate of 19.6%. Seventy-two percent of the survivors had sustained stab wounds; 48% of the survivors had tamponade as the primary injury. Presenting vital signs were a major prognostic factor in survival. Of those presenting without vital signs, 6.6% recovered; 20% with agonal efforts upon arrival

survived, as did 34% with initial systolic blood pressure. Fifty-six percent of those with initial systolic blood pressure from 60 mm Hg to 100 mm Hg left the hospital alive. Mechanism of injury was a major prognostic factor. Survival rates for blunt, gunshot, and stab injuries were 1.7%, 16.7% and 40%, respectively. The most common complication among survivors (seen in 50%) was infection. (*Editor's note: As one would expect, survival is more likely with vital signs and with surgically reparable injuries, ie, tamponade or small cardiac penetration. The context of the overall injury is important: massive deceleration injury is likely to have caused arrest from aortic tear rather than tamponade or penetration of a cardiac chamber. Thoracotomy in this instance is unlikely to be successful.*)

Ken Jackimczyk, MD

thoracotomy, emergency department

## In vivo and in vitro antimicrobial activity of silver sulfadiazine and cerium nitrate. Saffer LD, Rodeheaver GT, Hiebert JM, et al, *Surg Gynecol Obstet* 151:232-236, (Aug) 1980.

This study was devised to determine the antimicrobial effectiveness of a mixture of silver sulfadiazine and cerium nitrate, because treatment failures in extensive deep burns have been seen with silver sulfadiazine alone. The two agents were studied by both *in vitro* and *in vivo*. The synergistic effects of both agents alone and in combination were studied *in vitro* using *Pseudomonas aeruginosa* cultures, and determinations were made of the minimum inhibitory concentration and minimum bactericidal concentrations. The results showed silver sulfadiazine to have considerably greater antibacterial activity than cerium nitrate, both for inhibition and destruction of *Pseudomonas*. Mixtures of silver sulfadiazine and cerium nitrate showed a slight synergistic effect in the presence of water or saline solution. The *in vivo* studies were conducted on guinea pigs by inoculating *P aeruginosa* into two para-vertebral incisions. The guinea pigs were then divided into six treatment groups of 12 guinea pigs with control animals. Silver sulfadiazine and cerium nitrate were used in either aqueous or cream forms, both alone and in combinations. The wounds were assessed four days later for evidence of infection and quantitative bacterial count. The agents had no synergistic effect. Cerium nitrate alone, either in solution or cream, had no effective antibacterial properties. Silver sulfadiazine alone, in solution or cream, significantly reduced infection when compared to control animals. In combination as a cream, these agents failed to show increased antibacterial properties. In solution, the combination proved to be antagonistic, and wounds showed significantly higher infection rates and bacterial counts than those wounds treated with silver sulfadiazine alone. The *in vivo* evaluation failed to support the effectiveness of cerium nitrate as an antimicrobial agent, and an antagonistic effect was found when it was mixed with silver sulfadiazine

Mark Shaffer, MD

burns, treatment with antimicrobials