For Hospitals in a Disaster: Reverse Triage

Creation of Surge Capacity by Early Discharge of Hospitalized Patients at Low Risk for Untoward Events.

Kelen GD, McCarthy ML, et al:

Disaster Med Public Health Prep 2009; Suppl 1 (April 6): S1-S7

This study considered hospitalized patients for early discharge in the event of a major disaster and the need for surge capacity if they were not subjected to any well-defined critical interventions within the preceding 4 days.

Background: As this review is being constructed, this country is in the midst of a Sturm und Drang of swine flu. Words such as "pandemic" are being carelessly thrown into the mélange of media hyperbole. In any case, this review serves to highlight the theoretical possibility that hospitals will be required to absorb large numbers of acutely ill or injured patients regardless of the disaster. One way of facilitating this concept is the early discharge of inpatients.
Objective: To determine the feasibility of early discharge (reverse triage) of hospital inpatients at low risk of untoward events for up to 96 hours.
Design: Prospective analysis using a blocked randomized design controlling for days of the week at 3 hospitals (academic, teaching affiliate, community).
Participants: 3491 inpatients.
Methods: 50 inpatient units were identified among the 3 hospitals. Pediatrics, newborn nurseries, and ICUs were excluded from the study. Other than those patients who were about to be discharged, all others in the morning census were identified for study. Study data included: demographics, dates, unit, elective versus nonelective admission, procedures, and interventions.
Interventions: An expert panel determined that patients with <12% likelihood of a consequential medical event related to early discharge were suitable to be released. They determined that the best proxy for a consequential medical event was any critical intervention (CI) within the past 4 days. The CIs were defined and weighted into 3 categories: major (7 to 10) [CPR, major surgery, etc], moderate (5 to 6) [wound care, cardiac catheterization, etc], and low (≤4) [LP, cardiac monitoring]. CIs were also defined as discrete (eg, I&D) and continuous (eg, IV meds).
Results: Of the study population (n=3491), 44% did not require any critical intervention and were deemed suitable for early discharge. Based upon a number of inbred and exigent factors, net surge capacity at the 3 hospitals was estimated at 66%, 71%, and 81%, respectively. Reverse triage made up the majority of the available surge beds (50%, 55%, and 59%, respectively).
Conclusions: Reverse triage can be an important aspect in surge capacity at any hospital.
Reviewer's Comments: At the creation of this edition, we are in the grip of a nationwide swine flu outbreak. While reverse triage is a well-known tactic in Israeli hospitals, the concept is alien in the States. This paper provides a template that should be a topic of discussion in disaster committees. (Reviewer-Paul P. Rega, MD).

Keywords: Reverse Triage

Print Tag: Refer to original journal article

D-dimer Predicts Bad Outcomes in Pneumonia

Admission D-dimer Can Identify Low-Risk Patients With Community-Acquired Pneumonia.

Chalamers JD, Singanayagam A, et al:

Ann Emerg Med 2009; 53 (May): 633-638

In CAP patients, a low D-dimer has similar performance in predicting outcome as low CURB65 and Pneumonia Severity Index scores.

Objective: Biomarkers are being used for clinical decision making, severity assessment, and management of patients. Coagulation disorders can accompany severe pneumonia. **Objective:** To determine whether there is an association between D-dimer levels and severity of community-acquired pneumonia (CAP).
Design: Prospective observational convenience.
Participants: 314 patients in the U.K. with CAP were evaluated. Patients were included if chest X-ray showed a new infiltrate and had ≥3 systemic symptoms consistent with pneumonia. Those patients with hospital-acquired pneumonia, immunosuppression, malignancy, thrombotic disorders, pulmonary embolisms, on anticoagulation, or with chronic liver disease were excluded.
Methods: A D-dimer level was measured by immunodiagnostic assay (VIDAS ELISA). The Pneumonia Severity Index (PSI) and CURB65 scores were also calculated to appraise the severity of clinical illness. The need for vasopressor or ventilatory support and 30-day mortality were the primary outcome measures.
Results: A D-dimer of 500 ng/mL was the cut-off used from previous literature. Of the 314 enrolled patients, 23.9% had a D-dimer <500 ng/mL in the ED. In total, 81.3% of the pneumonia patients with the low D-dimer had a PSI class of I to III; 64% of those with a D-dimer <500 ng/mL were CURB65 class 0 to 1 (low risk). Increasing D-dimer levels were seen to parallel with increasing PSI and CURB65 scores. With these data, D-dimer <500 ng/mL was associated with a negative likelihood ratio of 0.33 for need for vasopressor or mechanical ventilation support (95% CI, 0.09 to 1.27) and 0 for 30-day mortality (95% CI, 0 to 1.37). When compared to the PSI and CURB65, D-dimer had a similar area under the receiver-operator characteristic (ROC) curve. As for vasopressor support and mechanical ventilation, D-dimer had the same accuracy as the PSI, but a lower area under the ROC curve than the CURB65.
Conclusions: CAP patients with a D-dimer <500 ng/mL have a low risk of major morbidity and short-term death.
Reviewer's Comments: This was a convenience sample of a small cohort, which limits the utility of these results. Keep an eye out for validation studies before changing your practice. (Reviewer-Gretchen S. Lent, MD).

Keywords: D-dimer

Print Tag: Refer to original journal article

40% of Individuals Who Commit Suicide Have Recently Visited Their Doctor

Suicide.

Hawton K, van Heeringen K:

Lancet 2009; 373 (April 18): 1372-1381

Suicide is the 10th leading cause of death worldwide and is more prevalent in developing countries.

Discussion: Suicide is the 10th leading cause of death worldwide. There are some patterns to suicide epidemiology and risk factors that are important for EM specialists to review. In developed countries, the male-to-female ratio is between 2 to 4:1 and is increasing. Suicide rates are highest in the elderly population, but in the past 50 years rates have risen among young people. Suicide tends to peak in the spring, and suicide rates are high in women who are born in spring and early summer. The historically large gap in suicide rates between black and white people in the U.S. has narrowed. Native Americans, like many other indigenous populations, have higher suicide rates than the overall population, likely due to marginalization, disintegration of traditional social support networks and cultural values, socioeconomic deprivation, and alcohol misuse. Suicide rates are high in the unemployed. High rates are also associated with mental illness, which contributes to risks of both unemployment and suicide. Employed people commit suicide too. Medical practitioners have a high risk in most countries, but female doctors and nurses are generally most at risk, and access to poisons seems to be an important factor in determining the high rates. Among doctors, anesthesiologists are particularly at risk, with anesthetic drugs being used in many suicide deaths. Several other high-risk occupational groups (eg, dentists, pharmacists, veterinary surgeons, and farmers) also have easy access to means for suicide. Homosexual and bisexual individuals have high rates of attempted suicide. Suicide rates are high in prisoners, and major risk factors are being confined to a single prison cell, previous attempted suicide, recent suicidal ideation, and psychiatric disorder or history of alcohol. Roughly 90% of people who kill themselves will have a psychiatric disorder. Eating disorders (anorexia nervosa), attention-deficit hyperactivity disorder, and borderline and antisocial personality all seem to increase the risk of suicide, especially when associated with substance abuse and/or depression. In total, 30% to 40% of people who die by suicide have a personality disorder. Another surprising statistic--there is an increased risk of suicide in patients with cosmetic breast augmentation. Predictors of suicide include prior attempts, high levels of hopelessness, and high ratings for suicidal tendencies. The basics of what we can do to identify those at risk or to help prevent suicide are: screen for high-risk individuals; specifically ask about suicidal thoughts and plans; assess risk factors; determine the imminence of the suicidal behavior by asking about intention to die, cogent plans, and high level of hopelessness; and assess for alcohol misuse and easy access to means with which to carry out suicidal acts. Remember, 40% of individuals who commit suicide have visited a doctor within weeks of their death. (Reviewer-Arjun Chanmugam, MD).

Keywords: Suicide

Print Tag: Refer to original journal article

Is Female Gender a Risk Factor for Inferior Stroke Care?

Do Presenting Symptoms Explain Sex Differences in Emergency Department Delays Among Patients With Acute Stroke?

Gargano JW, Wehner S, Reeves MJ:

Stroke 2009; 40 (April): 1114-1120

Women who arrive in the ED with acute stroke take longer to be seen by a doctor and to get imaged.

Background: The expanding literature suggests that women presenting to the ED with stroke experience longer delays in diagnostic work-up in comparison with men; this may in part explain the finding that female stroke patients are less likely to receive thrombolysis.
Objective: The authors of this study theorize that differences in presenting symptoms between men and women with stroke might explain this delay, particularly if women experience more nontraditional symptoms that would confound the work-up and lead to less timely provision of advanced stroke care.
Design: Retrospective review of prospectively collected data from a statewide stroke registry.
Methods: The authors evaluated symptom information from a free text chief complaint field, and 2 time intervals: "ED door-to-doctor" and "ED door-to-image." In addition to surveying for the 5 AHA stroke warning groups in public health messages (numbness/weakness, confusion/speech, vision, walking/dizziness/balance, and headache), so-called "suspected strokes" were defined as any mention of stroke, CVA, or TIA in the chief complaint field.
Results: 1922 cases were identified from 15 participating hospitals. Females were older (72 vs 68 years), more likely to be nursing home residents, and less likely to be ambulatory. There were no significant differences between sexes in terms of prehospital delay. Women were significantly less likely than men to present with any classical stroke warning sign or suspected stroke (87.5% vs 91.4%) or to report trouble with walking, balance, or dizziness (9.5% vs 13.7%). After accounting for symptoms, age, and other confounders, women experienced 11% longer door-to-doctor intervals (time ratio, 1.11; 95%, CI, 1.02 to 1.22) and 15% longer door-to-image intervals (time ratio, 1.15; 95% CI, 1.08 to 1.25). Shorter door-to-doctor times were associated with symptoms of difficulty speaking and loss of consciousness. Weakness, facial droop, difficulty speaking, and loss of consciousness were associated with shorter door-to-image times, but difficulty with walking or balance was associated with longer door-to-image times. Sex differences remained even after restricting the analysis to patients who arrived within 6 or within 2 hours of symptom onset.
Conclusions: Women with acute stroke experience greater ED delays than men, which were not attributable to differences in presenting symptoms, time of arrival, age, or other confounders.
Reviewer's Comments: What is going on here? Is female gender an inherent risk factor for delay? We are poised for an epidemic of female stroke as demographics catch up with disease. Women live longer, and while stroke in premenopausal women is uncommon, the risk escalates tremendously once menopause occurs, especially among those who smoked when younger, suffered from migraine with aura, or who used oral contraceptives. It is predicted that by 2050, stroke mortality will be 30% higher in older women than men. Assuming equivalent prehospital care, something strange is happening once these female stroke patients hit the door. (Reviewer-Steven B. Abrams, MD).

Keywords: Sex Differences

Print Tag: Refer to original journal article

Patient Selection Difficult for tPA

Thrombolysis for Acute Stroke.

Joe Lex, MD

Joe Lex, MD -Special Presentation

If you treat 100 patients who meet t-PA criteria, 8 will have an absolute benefit, but 6 will have symptomatic intracranial hemorrhage.

The theoretical benefits, trials, controversies, practical difficulties, and overall place of thrombolysis for acute stroke continue to elicit intense discussion. In 1995, ECASS-I enrolled 620 patients to receive 1.1 mg/kg of tPA within 6 hours of onset of stroke symptoms; it showed no difference between the placebo and treated group. In 1998, ECASS-II enrolled 800 patients to receive 0.9 mg/kg of tPA within 6 hours of onset of stroke symptoms; it showed no difference in mortality, but up to 5 times as much intracerebral bleeding in the treated group. In 1999, ATLANTIS enrolled 547 patients to receive 0.9 mg/kg of tPA up to 5 hours after stroke symptom onset; there was no difference between placebo and the treated group. The 1995 NINDS trial involved only 312 patients, limited the treatment window to 3 hours from onset of symptoms, and used tPA dose of 0.9 mg/kg. NINDS showed that you had to treat 7 to 8 patients with t-PA to have 1 additional patient with better outcome, but only had to treat 16 patients with tPA to have 1 additional symptomatic intracranial hemorrhage. In other words, if you treat 100 patients who meet t-PA criteria, 8 will have an absolute benefit, but 6 will have symptomatic intracranial hemorrhage.

Keywords: Thrombolysis

Print Tag: Refer to original journal article

Anxiety, Noise Sensitivity Significantly Associated With Postconcussive Syndrome

Early Predictors of Postconcussive Syndrome in a Population of Trauma Patients With Mild Traumatic Brain Injury.

Dischinger PC, Ryb GE, et al:

J Trauma 2009; 66 (February): 289-296

Patients with cognitive or emotional symptoms, especially anxiety or noise sensitivity, may have persistent postconcussive syndrome and should be given early referral to a neurologist.

Objective: To determine which initial symptoms after mild traumatic brain injury best predict those patients who will develop persistent postconcussive syndrome.
Design/Methods: This was a prospective cohort study. Patients who presented to the level I trauma center after a mild traumatic brain injury were eligible for enrollment. Inclusion criteria included age 18 to 64 years, blunt mechanism of injury, Glasgow score of 13 to15, and at least 1 of the following: (1) loss of consciousness <30 minutes, (2) loss of memory of events immediately before or after injury, (3) alteration of mental state after the injury such as confusion, disorientation, and feeling dazed, or (4) acceptable score on the Mini Mental State Examination. Exclusion criteria included: brain lesion on CT scan, moderate or severe multiple injuries, focal neurological findings, skull fracture requiring clinical intervention, cerebrospinal fluid leak requiring clinical intervention, moderate or severe prior brain injury, seizures, psychiatric disorder requiring hospitalization, or recent substance abuse. Patients meeting eligibility requirements were enrolled during their hospitalization. Patients completed a baseline assessment, which included demographic information, medical history, medications, substance abuse screening, biochemical markers, balance measures, clinical findings, and neurometric tests. Follow-up testing was done on days 3 to 5, days 7 to 10, 3 months, 6 months, and 12 months.
Results: 180 patients were enrolled. In total, 91% were available for follow-up at days 3 to 10, and 61% were available at 3-month follow-up. Symptoms reported by the patients were divided into 3 categories: physical, cognitive, and emotional. At days 3 to 10, the most common symptoms reported were fatigue (93%), headache (71%), dizziness (69%), irritability (63%), difficulty concentrating (61%), and memory problems (52%). Physical symptoms had the highest prevalence but declined to pre-injury levels by 3 months. The cognitive and emotional symptoms also declined by 3 months, but not to pre-injury levels. Symptoms that were found to be statistically significant predictors of long-term postconcussive syndrome were anxiety, depression, memory problems, trouble thinking, irritability, light sensitivity, and noise sensitivity.
Conclusions: Anxiety and noise sensitivity are the 2 symptoms most significantly associated with prolonged postconcussive syndrome. Physical symptoms, although more prevalent immediately after mild traumatic brain injury, are poor predictors of persistent postconcussive syndrome.
Reviewer's Comments: This article is useful in allowing us to provide patients with information on what to expect for the following months and year with respect to symptomatology. Patients with primarily physical symptoms post mild traumatic brain injury can be reassured that their symptoms will resolve in about 3 months. Patients with cognitive or emotional symptoms, especially anxiety or noise sensitivity, may have persistent postconcussive syndrome and should be given early referral to a neurologist. (Reviewer-Lisa Cabral, MD).

Keywords: Postconcussive Syndrome Predictors

Print Tag: Refer to original journal article

Differentiating Asthma From Bronchiolitis in the Young Infant Varies in the ED

Variability in the Diagnostic Labeling of Nonbacterial Lower Respiratory Tract Infections: A Multicenter Study of Children Who Presented to the Emergency Department.

Mansbach JM, Espinola JA, et al:

Pediatrics 2009; 123 (April): e573-e581

Trying to distinguish bronchiolitis from asthma in an infant population is important therapeutically, but doomed to failure early on.

Background: Lower respiratory tract infections (LRTI) represent nearly 60% of infant infectious disease hospitalizations. For infants age <2 years, the most common diagnosis is bronchiolitis, but this clinical diagnosis has aspects that are similar to asthma or reactive airway disease (RAD). The ED diagnosis of bronchiolitis versus asthma/RAD has important implications because therapy is supportive in one and steroids are vital in the other. However, there is no standardized method to distinguish between the 2 acutely.
Objective: To identify patterns of specific diagnoses and therapies given to children with LRTI who presented to multiple emergency departments.
Design: Retrospective analysis.
Participants: 928 children (median age, 6 months).
Methods: Data were collected on all children aged <2 years who presented to an ED with a LRTI. The venues consisted of 4 matching pairs of EDs. The data study and collection period were during a 2- to 3-week winter season. The patient population was identified using the *International Classification of Diseases Ninth Revision, Clinical Modification* diagnosis codes. The subjects were retrieved by chart review, which centered on the index ED visit as well as any other ED visit from 1 month before and up to 1 year after that index visit.
Results: Of 928 patients, 676 (73%) were aged <12 months. In 624 (67%), the primary diagnosis was bronchiolitis. Other common diagnoses were asthma, cough, respiratory syncytial virus, wheezing, and viral pneumonia. Comparing diagnosis with the other EDs, bronchiolitis was the more common diagnosis at certain hospitals, while the other diagnoses were most common at others. Those aged <1 year were more likely to receive bronchiolitis as a diagnosis than older children (75% vs 46%). Likewise, fewer younger patients were given steroids in the ED compared to older children (25% vs 46%). Predictors of steroid treatment included: (1) visiting a specific ED, (2) older age, (3) an asthma diagnosis, and (4) presence of wheezing.
Conclusions: Variability of an LRTI diagnosis in infants aged <2 years is common in EDs, and the manner of treatment is based on factors largely independent of the disease process. Evidence-based and outcome-based definitions are required to help guide diagnosis and treatment.
Reviewer's Comments: Eons ago, I was taught if the baby is younger than 12 months, it is bronchiolitis and if older, take your pick. However, during the 11 months following the index visit, only 16% had a respiratory illness recurrence. That's good in a Medicaid population. So, for the most part, regardless of how the physicians were diagnosing LRTI, they were getting it right most of the time. That's not to say we shouldn't be doing a better job with prospective research on the topic. (Reviewer-Paul P. Rega, MD).

Keywords: Diagnosis & Therapy in Children

Print Tag: Refer to original journal article

DM Patients Who Use ICS May Have Need for Tighter Glucose Control

The Association of Inhaled Corticosteroid Use With Serum Glucose Concentration in a Large Cohort.

Slatore CG, Bryson CL, Au DH:

Am J Med 2009; 122 (May): 472-478

These authors found a significant association between ICS dose and higher serum glucose levels among patients with DM, but did not see this association among nondiabetic individuals.

Background: Although there are well-intended bona fide indications for steroids, the negative consequences of steroid administration as compared to the benefits are unknown. Oral steroids are associated with an increased risk of diabetes mellitus (DM), but in the Lung Health Study, ICS did not demonstrate an increased risk for new-onset DM.
Objective: To determine the association between inhaled corticosteroids (ICS) dosing and serum glucose concentration.
Methods: Outpatient visits from 7 general internal medicine clinics at 7 Veterans Affairs medical centers from 1997 to 1999 were included. The exposure variable was the daily ICS dose in triamcinolone equivalents. The outcome variable used was serum glucose. The patient's fasting state was not known. In total, 1698 subjects were included and had to be at least 80% adherent to use of an ICS during a 30-day period. Subjects without DM had an average of 3.1 (SD, 2.63) serum glucose measurements available for analysis, and subjects with DM had an average of 3.9 (SD, 3.11).
Results: The average serum glucose concentration was 170 mg/dL (SD, 74) for subjects with DM and 112 mg/dL (SD, 34) for those without diabetes. Among subjects without self-reported diabetes, ICS dose was not associated with serum glucose concentration, whereas there was a dose-dependent increase in glucose for diabetic patients.
Conclusions: The authors found a significant association between ICS dose and higher serum glucose levels among diabetic patients, but did not see this association among nondiabetic individuals.
Reviewer's Comments: Why is this finding so unique? Other studies have not shown an association between ICS and markers of glucose control. The reason for this discrepancy is not clear, but what is clear is that the increase in glucose among diabetic patients is dose-dependent with no obvious ceiling found in this study. So back to the original question: what is the systemic impact of steroids? Although many more studies are needed to fully answer the question, we know that patients who have diabetes and who use ICS may have a need for tighter glucose control. For emergency providers, this article is an extra reminder that patients with diabetes who are on ICS should always have their glucose checked. (Reviewer-Arjun Chanmugam, MD).

Keywords: Inhaled Corticosteroids

Print Tag: Refer to original journal article

Do it Yourself SAVS Diagnose STIs

Self-Administered Vaginal Swabs Are a Feasible Alternative to Physician-Assisted Cervical Swabs for Sexually Transmitted Infection Screening in the Emergency Department.

Berwald N, Cheng S, et al:

Acad Emerg Med 2009; 16 (April): 360-363

Self-administered vaginal swabs are a feasible screening for STIs in the ED, especially if pelvic exam isn't indicated.

Background: Pelvic examination is the limiting step for sexually transmitted infection (STI) screening in the ED.
Objective: To determine whether self-administered vaginal swabs (SAVS) are feasible in screening for STI in the ED.
Design: Prospective cross-sectional study of a convenience sample.
Participants: Sexually active females aged 18 to 55 years were evaluated. The only exclusion was repeated visits.
Methods: All female patients were offered this test, whether or not a pelvic exam was indicated. If consented, patients were given written and verbal instructions on swab collection. All enrolled patients underwent self-collection and cervical swab collections performed by an MD. The patient-obtained specimen results were compared to the physician-assisted cervical swab, which was the criterion standard. Specimens were analyzed by polymerase chain reaction assay.
Results: 290 patients were approached for enrollment and 162 patients agreed. In total, 81% that were enrolled had a genitourinary symptom. The self-administered swabs' ability to detect an STI had 91% sensitivity (95% CI, 60% to 99%) and 99% specificity (95% CI, 95% to 99%). The self-administered swabs had a positive likelihood ratio of 91 and a negative likelihood ratio of 0.09 in the diagnosis of STI. Overall, 33% of the positive cases had chief complaints that would not have warranted a pelvic exam. There was no patient complaint of discomfort or difficulty in using the self-administered technique.
Conclusions: SAVS are a feasible alternative to physician-assisted cervical swabs in the diagnosis of sexually transmitted infection.
Reviewer's Comments: If a patients' swab was positive and physicians' swab was negative, it was considered a false-positive for this study. I wish a third test was done to confirm that the patient actually did not have an STI. I believe a third analysis in false-positive or false-negative cases would have strengthened these results. The study is also limited by being a convenience sample, 40% refusal to enroll rate, and the relatively small numbers. However, a third of the confirmed STIs were found in patients without genitourinary complaints; therefore, these patients would typically not have been tested. The SAVS is an excellent option for a big public health problem. (Reviewer-Gretchen S. Lent, MD).

Keywords: Self-Administered Vaginal Swabs

Print Tag: Refer to original journal article

Not All "Mild" TBIs Are Alike

Longitudinal Trajectories of Postconcussive Symptoms in Children With Mild Traumatic Brain Injuries and Their Relationship to Acute Clinical Status.

Yeates KO, Taylor HG, et al:

Pediatrics 2009; 123 (March): 735-743

Parents need to be made aware that their kids discharged with a diagnosis of "mild" TBI may have symptoms for a prolonged period of time and will require close follow-up.

Background: The annual number of children age <15 years who come to the ED because of traumatic brain injuries (TBI) is about 500,000. Fortunately, 80% to 90% can be classified as mild. However, there is growing concern that even children with mild TBIs may have postconcussive symptoms (PCS). Much of the investigations in the past are afflicted with methodological shortcomings and fail to provide a conclusive answer.
Objective: To determine whether children with mild TBI, but with clinical features suggestive of brain injury, have different postconcussive trajectories compared to controls.
Design: Prospective longitudinal cohort study.
Participants: 186 TBI patients (range, 8 to 15 years; mean age, 11.96 years) and 99 controls with orthopedic injuries.
Methods: A mild TBI was defined as blunt head trauma with loss of consciousness <30 minutes, Glasgow Coma Scale Score of 13 or 14 or at least 2 concussive symptoms like amnesia, vomiting, dizziness, or disorientation. Parents prepared a preinjury assessment of their children and they reported current PCS at the index visit and at 1, 3, and 12 months after injury (eg, headaches, depression, irritability, difficulty seeing, personality changes, dizziness, attention problems, forgetfulness). MRIs were obtained.
Results: 4 longitudinal trajectories were identified: no PCS (n = 64%); moderate persistent PCS (12%); high acute/resolved PCS (15%); and high acute/persistent PCS (9%). Children with ≤3 acute clinical features were "low severity" and children with ≥4 were classified as "high severity." Persistent amnesia, disorientation, and other mental status changes predicted a greater possibility that the child would fall into the high acute/resolved PCS group. Loss of consciousness, dizziness, disorientation, and other mental status changes predicted a greater possibility that the child would fall into the high acute/persistent PCS group. Those in the higher severity group were more likely to belong to the high acute/persistent group than were those in the low severity group (14% vs 6%). MRI abnormalities in each of the groups were not found to be predictive.
Conclusions: Children with mild TBI are more likely than controls to sustain either transient or persistent PCS in the first year after injury. The more severe the presentation, the greater the likelihood the PCS will be persistent.
Reviewer's Comments: Evidently, mild TBI in kids is a misnomer. While the authors advocate greater and more meaningful research into this enigma, this study serves to remind us that while the CT may be negative and we tell mom and dad their kid will be alright after falling out of the tree, perhaps we should be more articulate about what to look for down the line and whom to see for follow-up. (Reviewer-Paul P. Rega, MD).

Keywords: Postconcussive Trajectories

Print Tag: Refer to original journal article

Women More Likely to Present With Altered Mental Status for Stroke/TIA

Acute Stroke Symptoms: Comparing Women and Men.

Lisabeth LD, Brown DL, et al:

Stroke 2009; 40 (June): 2031-2036

More females than males present with altered mental status as part of their constellation of stroke/TIA findings.

Background: As noted in a previous review, women with stroke receive delays in care and are less likely to receive thrombolysis.
Objective: To define potential gender differences in the prevalence of stroke symptoms that could explain differences in care.
Design/Participants: Prospective study of adult stroke patients presenting to a single academic hospital over a 2-year period.
Methods: Patients were interviewed by the investigators as soon as possible following admission or ED stay to minimize recall bias. For patients unable to communicate, a proxy was interviewed if available. All interviews were scripted. The main end point was the dichotomous variable of nontraditional stroke/transient ischemic attack (TIA) symptoms versus none. Traditional symptoms were based on American Stroke Association guidelines and included hemi-body numbness, hemiparesis, diplopia or other visual disturbances, aphasia, dysarthria, discoordination/ataxia, facial weakness, and vertigo. Nontraditional symptoms were classified after Labiche et al (*Ann Emerg Med*, 2002; 40:453-460) and included pain (face or hemi-body), mental status change (disorientation, confusion, or loss of consciousness), lightheadedness, headache, general nonspecific neurological symptoms (nausea, hiccups, nonfocal weakness), and non-neurological symptoms (chest pain, palpitations, shortness of breath). Headache was considered a nontraditional, non-pain symptom in this study.
Results: 461 cases were enrolled (48.6% women; median age, 67 years). Slightly more women than men reported at least 1 nontraditional stroke/TIA symptom (51.8% vs 43.9%; *P* =0.09), and the odds of reporting at least 1 nontraditional stroke/TIA symptom were 1.42 times (95% CI, 0.97 to 2.06) greater in women than in men. However, the single most prevalent nontraditional symptom was mental status change, and this was present in significantly more women than men (23.2% vs 15.2%; *P* =0.03).
Conclusions: Although a high prevalence of nontraditional stroke/TIA symptoms are reported by both genders, women are more likely to report nontraditional symptoms, particularly altered mental status, compared with men.
Reviewer's Comments: As discussed previously, Gargano et al reported that female stroke patients were less likely to present with classical AHA warning signs of stroke, but when all variables were accounted for, these generic "atypical" presentations were not really defined other than what they were not, nor did they appear to explain differences in care. Here, albeit with ASA criteria, investigators actually speak with patients to define what the atypical signs might be. Will it help to rectify the care disparity? It might help a patient here or there. I note that 366 cases in this study had valid prehospital data. Median time from symptom onset to hospital arrival was 25% longer among women (*P* =0.05). Time to arrival was not associated with traditional or nontraditional symptoms. Demographics suggest that older women are more likely to be socially isolated with a restricted safety net and less access to resources. (Reviewer-Steven B. Abrams, MD).

Keywords: Acute Stroke Symptoms

Print Tag: Refer to original journal article