Thursday, September 27, 2007
11:00 AM–12:30 PM
Room 112, Convention Center

Geriatric Scientific Paper Presentation and Clinical Pearls

Course Number 410
Geriatrics
Safety and Efficacy of Percutaneous Vertebroplasty for Vertebral Insufficiency Fractures in Nonagenarians. **Michael E. Frey, MD; Michael J. DePalma, MD (Virginia Commonwealth University, Richmond, VA); David X. Cifu, MD; William F. Carne, PhD.**
Disclosure: M.E. Frey, Stryker Interventional Pain; M.J. DePalma, Stryker Interventional Pain; D.X. Cifu, None; W.F. Carne, None.

Objective: To assess the safety and efficacy of vertebroplasty in treating osteoporotic vertebral compression fractures in nonagenarians. **Design:** A prospective observational cohort study of consecutive 90- to 99-year-old, osteoporotic patients with vertebral compression fractures. **Setting:** Private practice, office-based pain management center. **Participants:** Osteoporotic nonagenarians with painful vertebral compression fractures (61 patients; 47 women; mean age, 94.8y; mean symptom duration, 33.4d). **Interventions:** 2 to 3mL of polymethylmethacrylate were injected via a bipedicular approach into each fractured vertebral body under light intravenous conscious sedation with fluoroscopic control. **Main Outcome Measures:** Baseline visual analog scale (VAS) rating, analgesic usage, and duration of symptoms were recorded. Subsequent VAS ratings were assessed within 30 minutes after the procedure, at 2, 4, 12, 24, 52, and 104 weeks postprocedure. Analgesic usage and patient satisfaction were assessed at final follow-up. **Results:** All patients were available at each follow-up interval except 3 patients who died due to unrelated pulmonary disease between the 12- and 52-week follow-up. The mean VAS score at baseline was 7.80, 3.15 within 30 minutes after the procedure, 2.07 at 2 weeks, 1.59 at 4 weeks, 1.30 at 12 weeks, 1.08 at 24 weeks, 0.79 at 52 weeks, and 0.62 at 104 weeks. Improvement at each interval and overall was statistically significant using analysis of variance (F test, $P<.05$). No complications were encountered at any follow-up interval. **Conclusions:** Percutaneous vertebroplasty appears to be a safe and effective treatment for painful vertebral compression fractures in nonagenarians. The rate of improvement is rapid and sustained through 1 year. **Key Words:** Fractures; Geriatrics; Osteoporosis; Rehabilitation.

Course Number 410
Geriatrics
The Functional Recovery of Older Adults With Debility, Hip Fracture, and Myopathy During Inpatient Rehabilitation. **Patrick Kortebein, MD (University of Arkansas for Medical Sciences, Little Rock, AR); Carl V. Granger, MD; Dennis Sullivan, MD.**
Disclosure: P. Kortebein, None; C.V. Granger, Uniform Data System for Medical Rehabilitation; D. Sullivan, None.

Objective: To compare the functional recovery of older adult patients receiving acute inpatient rehabilitation for debility, hip fracture, and myopathy. **Design:** Retrospective cohort study of Uniform Data System for Medical Rehabilitation (UDSMR) database for 2002–2003. **Setting:** U.S. inpatient rehabilitation facilities subscribing to UDSMR. **Participants:** Total of 133,037 patients more than 65 years old, including: (1) 14,835 (23%) of 63,171 with a primary (PDD) or 48,336 (77%) with a comorbid (CDD) diagnosis of debility; (2) 68,915 with a diagnosis of hip fracture; and (3) 915 with a diagnosis of myopathy. **Interventions:** Not applicable. **Main Outcome Measures:** Rehabilitation efficiency (equal to [FIM discharge rating − FIM admission rating] / length of stay in days). **Results:** Patients with a PDD had a significantly higher rehabilitation efficiency score compared with the myopathy group (1.78 vs 1.59, $P<.001$), but a significantly lower rehabilitation efficiency score compared with the hip fracture and CDD groups (1.86 and 1.90, respectively; $P<.001$). **Conclusions:** From a statistical standpoint, older adult patients with a PDD have a more rapid functional recovery during acute inpatient rehabilitation compared with patients with myopathy, but a slower recovery than patients with hip fracture or a CDD. However, from a clinical perspective, the rate of functional recovery of the PDD patients is essentially the same as that of patients receiving acute rehabilitation for hip fracture or myopathy. Because the functional recovery of these 3 patient groups was virtually the same, and because hip fracture and myopathy are qualifying conditions, according to the Centers for Medicare and Medicaid Services 75% rule, debility warrants consideration for inclusion as a qualifying diagnosis under this rule. However, further research is needed to identify those patients with debility who are most likely to benefit from acute inpatient rehabilitation. **Key Words:** Aged; Geriatrics; Muscle weakness; Rehabilitation.

Friday, September 28, 2007
12:30–2:00 PM
Room 302, Convention Center

Stroke/TBI Clinical Pearls and Papers

Course Number 236
Brain Injury
A Multicenter Study on the Clinical Utility of Post-Traumatic Amnesia Duration in Predicting Global Outcome After Traumatic Brain Injury. **Tao Chen, MD (Virginia Commonwealth University, Richmond, VA); Jennifer H. Marwitz, MA; William C. Walker, MD; Flora Hammond, MD; Jay Meythaler, JD, MD; Mark Sherer, PhD, ABPP-Cn.**
Disclosure: T. Chen, None; J.H. Marwitz, None; W.C. Walker, None; F. Hammond, None; J. Meythaler, None; M. Sherer, None.

Objective: To assess, using the largest sample to date, post-traumatic amnesia (PTA) duration thresholds for attaining and not attaining Glasgow Outcome Scale (GOS) levels. **Design:** Observational multicenter cohort study using prospectively collected data. **Setting:** National Institute on Disability and Rehabilitation Research (NIDRR) Traumatic Brain Injury Model Systems (TBIMS) participating interdisciplinary rehabilitation centers. **Participants:** Consecutive sample of patients (N=2271) enrolled in the NIDRR TBIMS research project with documented PTA duration and 1-year GOS levels. Consistent with TBIMS enrollment eligibility, all subjects had a traumatic brain injury (TBI) that led to admission to inpatient interdisciplinary rehabilitation. **Intervention:** Rehabilitation treatments were not controlled for type, intensity, or duration. **Main Outcome Measure:** GOS level at 1 year postinjury. **Results:** For this sample, the chance of attaining good GOS level dropped below 10% after about 8 weeks of PTA. Specifically, the rate of good GOS when emerging from PTA between weeks 2 and 4 was 44.2% (278/629), between weeks 4 and 6 it was 31.4% (135/430), between weeks 6 and 8 it was 17.4% (30/172), between weeks 8 and 12 it was 9.7% (12/124), and between weeks 12 and 16 it was 7.9% (3/38). Poor outcome was less likely with shorter PTA, but the rate of severe disability remained well above 10%, even for the shortest PTA durations. **Conclusions:** Good GOS outcome at 1 year is very unlikely when PTA duration exceeds 8 weeks, perhaps signifying a critical degree of diffuse brain injury. While exceptions