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FRIDAY, November 20, 2009

POSTER 19

Association Between Anemia and Hemoglobin Level with Health Status Index (HSI) and Activities of Daily Living (ADL) for Long Term Care (LTC) Residents in Colorado

Michael Wasserman, Gregory Reardon, Steve Hord, Brett Kilpatrick, R. Scott McKenzie, Catherine Piech, Robert Bailey

PURPOSE: Among LTC residents, we explored the association between anemia status and hemoglobin level with HSI (a health-related quality-of-life measure) and with ADL functioning (a measure of daily-task performance).

METHODS: Using a cross-sectional design, data were derived from the Analyticare database, containing laboratory and Minimum Data Set (MDS) reports for 27 LTC facilities in Colorado. Study time frame was 1/1/07-9/15/08. Patients were selected based on: residence in LTC > 90 days, hemoglobin (Hb) value within 90 days of the earliest non-admission MDS. From the index MDS, the method of 1) Wodchis et al. [Int J Technol Assess Health Care 19:3(2003)] was used to assign HSI scores (MDS items were mapped to the HUI2 scoring function) and 2) Carpenter et al. [BMC Geriatr 6:7(2006)] was used to assign ADL scores. Adjusted regression models with backward elimination were used.

RESULTS: 838 residents met all inclusion criteria; 46% of residents were anemic. Mean HSI was 0.43 (0=death ranging to 1=perfect health). Compared with non-anemics, residents with anemia had significantly worse HSI scores (-0.03 points, $P=.005$). Residents with hemoglobin levels ≥ 12 mg/dL had significantly better HSI scores (+0.03 points, $P=.022$). Mean ADL score was 14.9 (0-28 scale, where higher score has worse functioning). Residents with anemia had significantly worse ADL scores (+1.62 points, $P=.001$). Residents with hemoglobin levels ≥ 12 had significantly better ADL scores (-1.70 to -2.16 points, $P=.021$).

CONCLUSIONS: After adjusting for several covariates, residents with anemia and those with hemoglobin levels < 12 had significantly poorer outcomes in both health status (exceeding minimally important differences) and ADL functioning.

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POSTER 20

**The Association of Anemia and Pressure
Ulcers (PU) in Residents of Long Term Care
Facilities (LTCFs)**

Michael Wasserman, Gregory Reardon, Steve Hord, Brett Kilpatrick, R. Scott McKenzie, Catherine Piech, Robert Bailey

PURPOSE: To evaluate the association between anemia and the prevalence of PU in residents of LTCFs.

METHODS: Using a cross-sectional design, data were derived from the Analyticare database, containing laboratory and Minimum Data Set (MDS) reports for 27 LTCFs in Colorado. Study time frame was 1/1/07-9/15/08. Patients were selected based on: residence in LTCF >90 days, hemoglobin (Hb) value \pm 90 days of the earliest non-admission MDS. PUs were identified using MDS field M2a. Anemia was defined as Hb (g/dL) <12 females and <13 males. Logistic regression, adjusted for other potential explanatory factors, was used to analyze the relationship between anemia and Hb level with the rate of PU.

RESULTS: 838 residents met inclusion criteria. Mean age 78 years, 67% female. 9.3% of residents were reported with PU. The rates of PU showed a general relationship with Hb level: a higher PU rate of 20.6% for those with Hb <10 g/dL and a lower rate of 5.5% for residents with Hb levels \geq 13. In the logistic regression model, anemia was associated with higher odds ratio for PU 2.23 (95% CI 1.32 to 3.78, $P=.003$). When Hb values were converted to five categories, the probability of having PU declined by 80% (Hb \geq 13, $P<.001$) compared with the reference category of Hb <10.

CONCLUSIONS: Anemia was associated with higher rates of PU. More severe anemia was associated with a substantially higher risk of PU. Further study is warranted to understand the relationship between anemia and other clinical factors in the development of PU.

Authors acknowledge this study was funded by Centocor Ortho Biotech Services, LLC. McKenzie, Piech, and Bailey are employees of Centocor Ortho Biotech Services, LLC



ABSTRACTS of Posters

POSTER 21

Drug Utilization and Cost for Erythropoiesis Stimulating Agents (ESAs) in a Long-Term Care Population with Chronic Kidney Disease

Marie-Hélène Lafeuille, Robert Bailey, Francis Vekeman, R. Scott McKenzie, Catherine Piech, Patrick Lefebvre

PURPOSE: To compare drug utilization patterns and costs in patients with chronic kidney disease (CKD) not on dialysis receiving epoetin alfa (EPO) or darbepoetin alfa (DARB) in a long-term care population.

METHODS: An analysis of pharmacy prescription claims from 01/2007 through 03/2009 was conducted using AnalytiCare Long-Term Care database. Patients ≥ 18 years, with ≥ 1 EPO or DARB pharmacy claim were included. Patients diagnosed with cancer, receiving chemotherapy or radiation therapy, receiving renal dialysis, or receiving both agents were excluded. Mean cumulative ESA dose was used to calculate drug cost (based on 04/2009 wholesale acquisition cost) and dose ratio (Units EPO: mcg DARB).

RESULTS: A total of 2,259 ESA-treated patients were identified (EPO 1,640; DARB 619). EPO patients were slightly older (76.1 vs. 74.8, $P=0.021$) compared with DARB patients. The proportion of women, the education level, and race distribution were similar between groups. Mean days supply per prescription and number of prescriptions per patient were similar (days supply: 11.0 vs. 11.5; number of prescriptions: 3.3 vs. 3.4, $P>.05$ for both). Mean [SD] cumulative dose was 98,420 [122,381] Units for EPO and 360 [428] mcg for DARB, resulting in a dose ratio of 273:1 (Units EPO: mcg DARB). The corresponding drug cost was 42% higher with DARB than with EPO (\$1,734 vs. \$1,217, $P<0.001$).

CONCLUSIONS: This study of long-term care CKD patients receiving ESAs reported 42% higher drug cost with DARB compared with EPO and a dose ratio of 273:1 (Units EPO: mcg DARB).

Authors acknowledge this study was funded by Centocor Ortho Biotech Services, LLC. McKenzie, Piech, and Bailey are employees of Centocor Ortho Biotech Services, LLC.



FRIDAY, November 20, 2009

POSTER 24

Stroke in the Long-Term Care Setting: Patient Characteristics and Medication Treatment

Juliana Jackel, Keith Davis, Aarti Patel

PURPOSE: Few studies have evaluated the management of stroke within long-term care (LTC) settings. The objective of this analysis was to document demographics, clinical characteristics, and branded antiplatelet medications received for secondary stroke prevention among patients with stroke in the LTC setting.

METHODS: Data were taken from the Minimum Data Set (MDS), a standardized instrument to assess residents of LTC facilities in the US. Patients with cerebrovascular accident marked "yes" between January 1, 2007 and December 31, 2008 were selected. Study measures included demographics, admission and payer source, residential history, quality measures, comorbidities, and branded antiplatelets received (i.e., clopidogrel, ticlopidine, and ASA/ER-DP). Information regarding medications was derived from a linked pharmacy claims database.

RESULTS: 14,469 patients had a stroke diagnosis. Mean (\pm SD) age was 76.0 (\pm 11.3) years, 57.8% were female, and patients were predominantly white (62.8%). Half of patients had a stroke recorded on their admission assessment. Most patients were admitted from an acute care hospital (73.2%), had no prior residential admission (64.8%), and were covered by Medicare or Medicaid (55.2%). Common comorbidities included hypertension (53.3%), diabetes (44.1%), and depression (40.8%). 68.1% and 48.9% of patients had short- and long-term memory problems, respectively. Almost two-thirds of patients needed extensive assistance and only 53.6% could balance while standing. 28.1% of patients received a branded antiplatelet medication. Mean (\pm SD) duration of therapy was 196.5 (\pm 226.7) days.

CONCLUSIONS: Despite evidence suggesting the benefits of branded antiplatelet medication for secondary stroke prevention, few patients receive treatment in LTC settings.

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ABSTRACTS of Posters

POSTER 25

Transient Ischemic Attack in the Long-Term Care Setting: Patient Characteristics and Medication Treatment

Juliana Jackel, Keith Davis, Aarti Patel

PURPOSE: Transient ischemic attacks (TIA) are considered precursors to stroke. The objective of this analysis was to document demographics, clinical characteristics, and branded antiplatelet medications received for stroke prevention among patients with TIA in the long-term care (LTC) setting.

METHODS: Data were taken from the Minimum Data Set (MDS), a standardized instrument to assess LTC residents in the US. Patients with TIA marked "yes" and cerebrovascular accident marked "no" between January 1, 2007 and December 31, 2008 were included in the study. Study measures included demographics, admission and payer source, residential history, quality measures, comorbidities, and branded antiplatelet medications received (i.e., clopidogrel, ticlopidine, and ASA/ER-DP). Information regarding medications was derived from a linked pharmacy claims database.

RESULTS: 833 patients met study inclusion criteria. Mean (\pm SD) age was 81.1 (\pm 9.1) years, 71.8% were female, and 80.0% of patients were white. Most patients had TIA recorded on their admission assessment (76.8%), were admitted from an acute care hospital (83.7%), had no prior residential admission (64.1%), and were covered by Medicare (68.9%). Common comorbidities included hypertension (78.2%), depression (38.8%), and dementia (excluding Alzheimer's) (36.9%). 62.9% and 40.8% of patients had short- and long-term memory problems, respectively. Over half of patients needed extensive assistance and only 38.4% could balance while standing. 31% of patients received a branded antiplatelet medication. The mean (\pm SD) therapy duration was 171.8 (\pm 211.8) days.

CONCLUSIONS: Despite evidence suggesting the benefits of branded antiplatelet therapy for stroke prevention following TIA, few patients receive treatment in the LTC setting.

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