

Article Title: Return to the Primary Acute Care Service Among Patients With Multiple Myeloma on an Acute Inpatient Rehabilitation Unit

Author: Jack B. Fu, MD, Jay Lee, PhD, Ben C. Shin, MD, Julie K. Silver, MD, Dennis W. Smith, PhD, Jatin J. Shah, MD, Eduardo Bruera, MD

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Discussion:

Multiple myeloma is a cancer that begins in plasma cells. The cause of multiple myeloma is currently unknown. This cancer usually occurs in people older than 60 years of age. It is slightly more common in men than in women.

Patients with multiple myeloma often require inpatient rehabilitation service due to unexpected medical complications related to their cancer and treatment, which include infection, bone pain, fractures and spinal cord compression. Although there have been several studies on return to the primary acute care service among patients with lymphoma, leukemia, and hematopoietic stem cell undergoing inpatient rehabilitation, no previous study has evaluated risk factors for return to the primary acute care inpatient service of multiple myeloma patient population.

The purpose of this study is two-fold: (1) to identify the percentage of multiple myeloma patients under treatment, who transferred to the primary acute care inpatient service from inpatient rehabilitation for unplanned reasons, and (2) to identify risk factors associated with unplanned transfers of patients with multiple myeloma from inpatient rehabilitation to the primary acute care service.

Thirty-two of the 122 total patients (26%) transferred back to the primary acute care service for unplanned reasons, such as infection, cardiac, renal, neurologic, gastrointestinal bleed, pulmonary, and orthopedic. Those with planned transfers, such as planned chemotherapy, were not included in the study group.

Unplanned return to the primary acute care service had statistically significant associations with elevated Bence Jones protein and a lower platelet count as well as male gender, presence of Foley catheter, IV antifungal agent, antiviral agent, IV

antibiotic, history of stem cell transplant, and being deceased as of June 1, 2015. However, after a multivariate logistic regression analysis, only two of these factors continued to be significant: (1) male gender and (2) thrombocytopenia (less than 140,000/mL). Survival time for patients who returned to the primary acute care service was significantly shorter (median 180 days), compared to those who did not return to the primary acute care service (median 550 days).

Identifying such high-risk patients would be desirable and clinically important. Closer supervision by oncologists can help prevent possible complications and transfers back to the primary acute care service among people with increased risk. By understanding and addressing those identified risk factors, consulting physiatrists involved in care of high-risk groups would be able to plan the most appropriate and safest inpatient rehabilitation program for the patients.

Discussion Author: Lanah Koh, OMS-II, Touro College of Osteopathic Medicine

Discussion Points:

- 1) What is the goal of rehab for patients with multiple myeloma?
- 2) What role does a physiatrist play in the medical care of patients with multiple myeloma?
- 3) What are some of the risk factors of multiple myeloma?
- 4) Was the sample size adequate enough to fulfill the objectives of the study? How might a bigger sample size have affected the study result?
- 5) How would this study be designed differently if Functional Independence Measure scores and staging of multiple myeloma were known?
- 6) What comorbidity measures in patients with multiple myeloma could have been included in the analysis?
- 7) What would be the possible explanation for higher mortality in patients who transferred back to the primary acute care service for unplanned treatment?
- 8) How could the inpatient rehabilitation therapy be modified based on the patient's subjective history and findings documented in this study?