

### LOW SERUM ALBUMIN IN PATIENTS WITH COEXISTING COGNITIVE IMPAIRMENT PREDICTS SURGICAL COMPLICATIONS

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Cognitive impairment (CI, ~15-20%) and malnutrition (~38.7%) are common concerns among older adults ≥65 years. CI and malnutrition may be used as predictive risk factors for poor surgical outcomes. The 2012 ACS NSQIP/AGS Best Practice Guidelines for the preoperative assessment of geriatric surgical patients classify severe nutritional risk as either having a BMI < 18.5 kg/m<sup>2</sup>, serum albumin (SA) < 3.0 g/dL and/or unintentional weight loss > 10%-15% within 6 months. Using SA as a surrogate marker for malnutrition, we evaluated the relationship between CI, malnutrition, and risk for poor surgical outcomes in a geriatric population. Electronic medical record chart reviews of patients (≥65 years old) undergoing elective intermediate or high-risk surgery (IHRS), between 2016 and 2019 in Tucson, AZ, were conducted. Pre-and-post assessment factors such as cognitive status via mini-cog, laboratory markers (SA), and hospital complications were examined. Multivariate regression analyses were performed to determine the association between cognitive status, SA levels, and hospital complications. Of the 173 patients undergoing IHRS included in this assessment (mean age: 75.5±7.4 years, [60-93 years], 54.9% male), 42.8% experienced hospital complications. Multivariate regression analysis revealed cognitive impairment and low SA levels were significantly associated with this outcome (p<0.05), adjusted for age and gender. We demonstrated MCI and low SA levels are risk factors of postoperative hospital complications among older patients undergoing elective IHRS. Increased understanding of predictive factors can help enhance prevention efforts, aiding in improving patient experiences and reducing patient and hospital costs.

### NURSING STAFFING IS ASSOCIATED WITH MOBILITY AND FOOD INTAKE IN OLDER HOSPITALIZED PATIENTS

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Hospitalization processes related to patient mobility and food-intake significantly affect outcomes of older adults. Nurses are the front-line personnel responsible for promoting performance of these functioning-preserving processes. The degree to which nursing skill-mix is related to their performance is unclear. We investigated the association between staffing and hospitalization processes in a cohort of 836 older adults aged 70+ admitted to internal units for non-disabling conditions. Mobility and food-intake were assessed within 2 days of admission using validated questionnaires. Nurse-patient ratios and nursing skill-mix (i.e. registered nurses, nurse aides, and advanced practice nurses) were assessed using administrative and payroll/roster data.

Decision-trees were developed for mobility and food-intake applying classification and regression tree analysis. The mobility decision-tree identified four characteristics that subdivided the patients into eight segments (nodes) (pre-admission functioning, sex, malnutrition risk and percent of advanced practice nurses). The food-intake decision-tree identified five characteristics (pre-admission functioning, sex, chronic morbidity, age and percent of nurse aids) that subdivided the patients into ten nodes. Percent of advanced practice nurses and the percent of nurse aids classified low functioning patients: higher percent of advanced practice nurses (>30% vs. ≤30%) was associated with higher probability of walking in corridors (20.7%) versus inside the room (4.3%), and higher percent of nurse aids (>23% vs. ≤23%) was associated with higher probability of eating more than half of the served meals (83.9%) versus others (66.3%). This study shows that staffing levels are associated with better performance of functioning-preserving processes. Future studies should investigate staffing interventions improving functioning-preserving processes.

### OLDER SEPSIS SURVIVORS SUFFER PERSISTENT DISABILITY BURDEN AND POOR LONG-TERM SURVIVAL

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As in-hospital sepsis mortality has decreased, more “sepsis survivors” are progressing into poorly characterized long-term outcomes. The purpose of this study was to describe the current epidemiology of sepsis in older adults compared to middle-aged and young adults. Design: Prospective longitudinal study with patients categorized into young (≤ 45 years), middle-aged (46-64 years) and older (≥ 65 years) patient groups. 328 sepsis patients were characterized by a) baseline demographics and predisposition factors, b) septic event, c) hospital outcomes and discharge disposition, d) 12-month mortality and e) Zubrod Performance status, physical function and cognitive function at three, six and 12-month follow-up. Follow-up visits were not completed due to death (in 68) and withdrawal of consent (in 32). Compared to young and middle-aged patients, older patients had: 1) significantly more comorbidities at presentation (example chronic renal disease 6% vs 12% vs 21%), intra-abdominal infections (14% vs 25% vs 37%), septic shock (12% vs 25% vs 36%) and organ dysfunctions, 2) higher 30 day mortality (6% vs 4% vs 17%) and fewer ICU free days (median 25 vs 23 vs 20), 3) more progression into CCI (22%, vs 34% vs 42%) with higher poor disposition discharge to non-home destinations (19% vs 40% vs 62%), 4) worse 12-month mortality (11% vs 14% vs 33%) and, 5) poorer Zubrod Performance status and objectively-measured physical and cognitive functions with slight improvement over 12 month follow-up. Conclusion: Compared to younger patients, older sepsis survivors suffer with both a higher persistent disability burden and 12-month mortality.