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The relation of mini nutritional screening score, subjective global assessment of nutrition and pneumonia severity index in elderly patients diagnosed with community acquired pneumonia admitted at Cardinal Santos Medical Center: An observational, analytical and cross sectional study

Marco Angelo D Tongo and Rosa Allyn Sy
Cardinal Santos Medical Center, Philippines

Introduction & Aim: Community acquired pneumonia is among the leading causes of morbidity and mortality among the Filipino elderly community hence, the pneumonia severity index was developed to determine a patient's probability of mortality and morbidity. Nutrition, on the other hand, is one of the most neglected yet significant aspects in the initial evaluation of elderly patients with community acquired pneumonia, despite the availability of nutrition assessment tools such as the subjective global assessment of nutrition and mini nutritional screening score. This study, hence, aims to determine the relation of the subjective global assessment of nutrition status and mini nutritional screening score with the pneumonia severity index among elderly individuals with community acquired pneumonia admitted in Cardinal Santos Medical Center.

Methods: This is an observational, analytical and cross sectional study whose target population are the elderly patients of Cardinal Santos Medical Center diagnosed with community acquired pneumonia. The study was conducted among elderly patients, aged 60 years and above, diagnosed with community acquired pneumonia, admitted in Cardinal Santos Medical Center during the period of August to September 2015. Upon admission, the pneumonia severity index, mini nutritional screening score and subjective global assessment grade is determined. Data collected were then subsequently run in Open Epi ver. 3.03a for statistical analysis. Means, frequency distribution and odds ratio were done for statistical analysis.

Results: A total of 106 patients were included in the study. Using the subjective global assessment, patients classified as being moderately to severely malnourished have 19 times greater odds to develop intermediate risk pneumonia ($p < 0.05$) and 64 times greater odds to develop high risk pneumonia ($p < 0.05$). Patients, who were stratified as being at risk for malnutrition and being malnourished using the mini nutritional screening score has 10 times greater odds of developing intermediate risk pneumonia ($p < 0.05$) and 100 times greater odds of developing high risk pneumonia ($p < 0.05$). Patients classified as being underweight using body mass index, however, did not correlate significantly with determining the odds of developing intermediate or high risk pneumonia ($p > 0.05$). Although calf circumference of < 31 cm did not significantly determine the odds of developing intermediate risk pneumonia, there was evidence that this increased the odds of developing high risk pneumonia by 10 times.

Conclusion: Elderly patients, of at least 60 years of age, diagnosed with community acquired pneumonia have a higher risk for malnutrition as the disease becomes more severe. Nutrition assessment tools, including the subjective global assessment of nutrition and the mini nutrition screening scores can be used in determining clinical outcome of elderly patients. The use of body mass index, may aid in predicting morbidity and mortality if correlated with other components of nutrition assessment tools. However, body mass index alone, did not yield a statistically significant relation to pneumonia severity. Calf circumference, on the other hand was able to yield statistically significant odds in determining high risk pneumonia.

Biography

Marco Angelo D Tongo is currently a Medical Resident at the Department of Internal Medicine in Cardinal Santos Medical Center in the Philippines. He has completed his Medical School at the University of Santo Tomas, Faculty of Medicine and Surgery and Pre-Medicine Course at University of the Philippines.

marcotongo@yahoo.com