



CRP LEVELS & OUTCOMES AFTER DISCHARGE IN COMMUNITY-ACQUIRED PNEUMONIA

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BACKGROUND

- Community acquired pneumonia (CAP) is one of the most common infections presenting to the emergency department (ED), and a leading cause for morbidity and mortality
- In previous work we showed that reduced admission rates were not associated with increased fatality or one-week ED revisits rates (~4.4% and ~6.5% respectively)¹; on the other hand, It has been shown that elevated CRP level at ED is associated with increased 7 days ED revisit.

AIM

Our main goals were to explore main outcomes after ED discharge in diagnoses of UTI & Pyelonephritis in a tertiary medical center with more than 150,000 ED visits annually:

- 7 days ED revisit
- Admission to hospital ward within 14 days
- Mortality within 30 days

METHODS

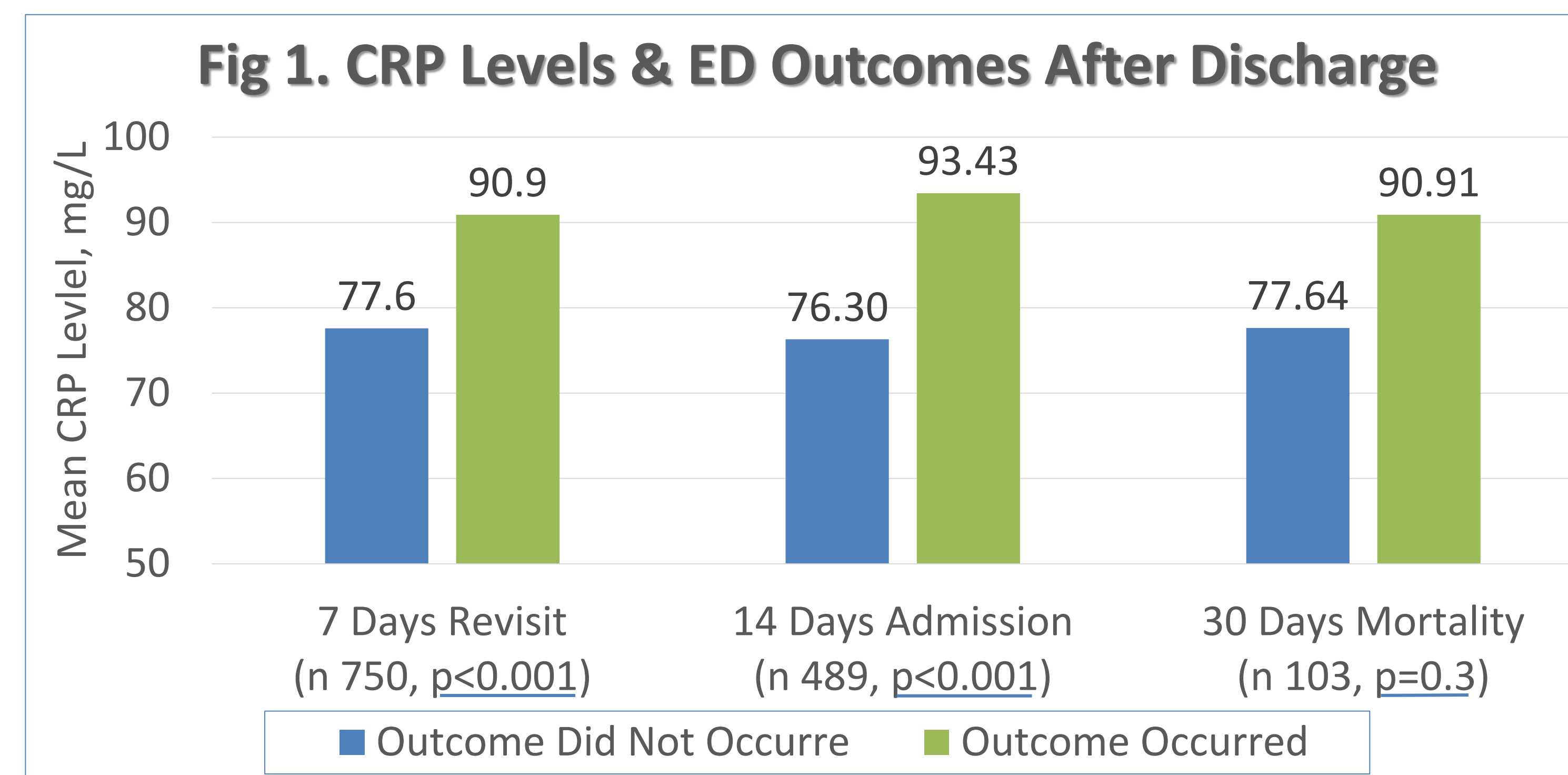
- All visits of patients discharged from the TLVMC emergency department with diagnosis of Community-Acquired Pneumonia between the years 2011-2021 were captured, with exclusion of visits of patients with incomplete or faulty data, or ED stay > 24 hours.
- Analysis were based on relation to CRP levels and age groups, with respect to historic database.

RESULTS

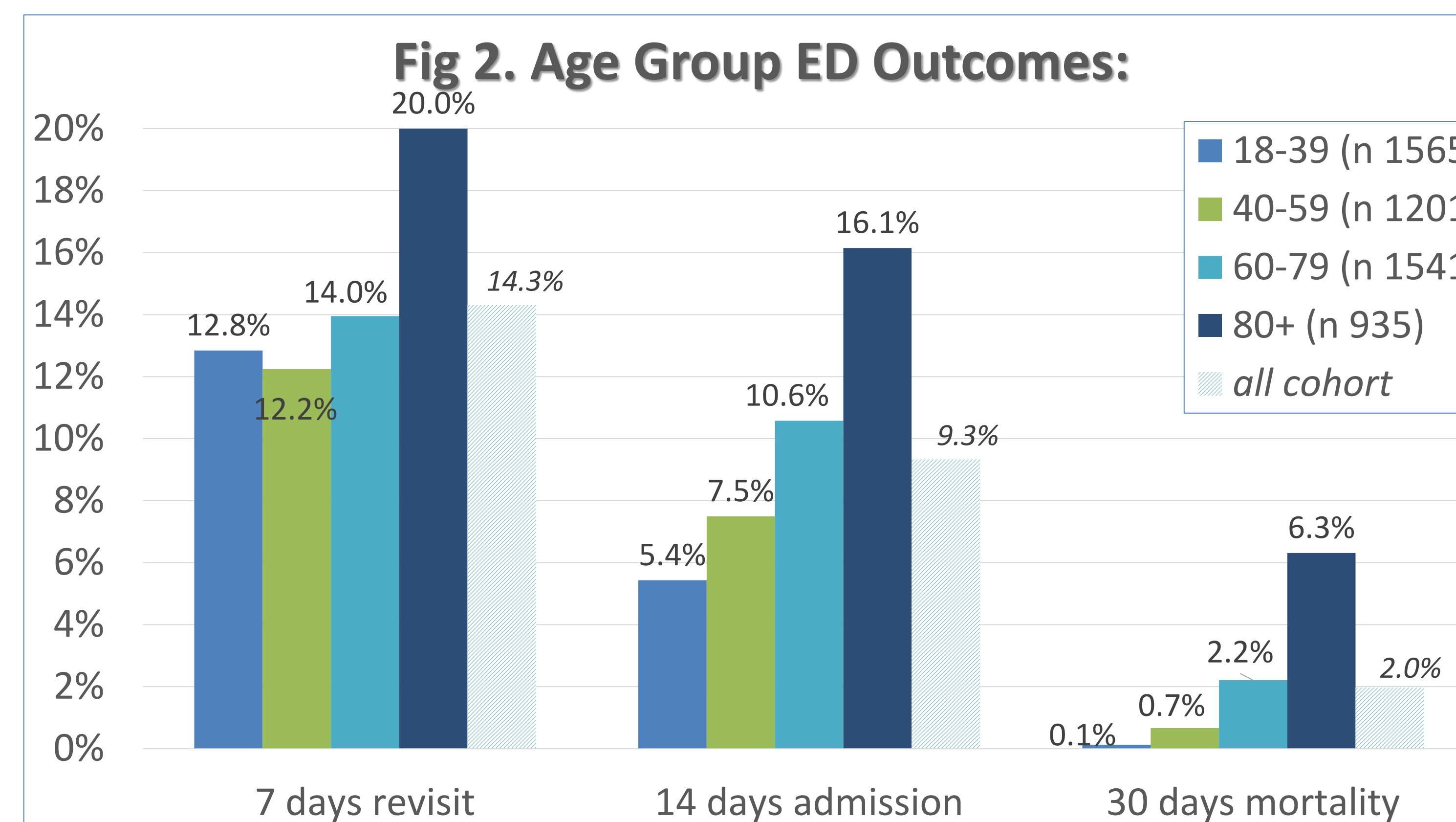
- After exclusion, 5242 patients (52.3% males), with a median age of 57.8 (IQR 37.2-75.0) were included.
 - **750 patients (14.3%) had 7 days ED revisit**
 - **489 (9.3%) were hospitalized within 14 days**
 - **103 (2.0%) died within 30 days.**

RESULTS (Cont'd)

- Elevated CRP levels at ED discharge **correlated with 7 days ED revisit and 14 days hospital ward admission**, but not with mortality (readmission: $r_{pb}=0.06$, $p<0.001$, hospitalization: $r_{pb}=0.07$, $p<0.001$, mortality: $r_{pb}=0.02$, $p=0.058$). See Figure 1.



- In ROC analysis, optimal CRP cut- off value was 65 mg/ml for both ED revisit and hospital admission (For 7 days readmission: sensitivity of 52% and specificity of 55%, AUC=0.54, P<0.001. For 14 days hospitalization: sensitivity of 56% and specificity of 44%. AUC=0.56, p<0.001).
- Age groups outcomes analysis is presented in figure 2:



CONCLUSIONS

- Elevated CRP levels were associated with 7 days ED revisit & 14 days hospital admission.
- No excess mortality was observed.
- Upon discharging patient from the ED in diagnosis of Pneumonia:
 - ~1/7 of patients will revisit the ED within 7 days (at age >80, 1 in 5 will have ED revisit within one week).
 - At age > 60, more than 12% will have subsequent hospital admission in 14 days.
- With regard to previous data of ED discharges in parallel period¹ (figure 3):
 - ED discharges in diagnosis of Pneumonia bared lower mortality rates, compared to all cause ED discharges.
 - ED discharges in diagnosis of Pneumonia bared higher 7 days ED revisit and 14 days hospital admission rates, compared to all cause ED discharges.
- As expected, age was an important factor, and all outcomes were more frequent in the elderly population.

