CRP LEVELS & OUTCOMES AFTER DISCHARGE IN URINARY TRACT INFECTION

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BACKGROUND

- Urinary tract infection (UTI) is a common cause of Emergency Department (ED) visit, and most are referred for ambulatory care (>80% discharges in young females).
- Following ED discharge in diagnoses of UTI and pyelonephritis, 11-15% ED revisits rates were reported in previous works, with subsequent hospital admission rate of 6-9%[1].
- In previous work we showed one-week revisit and one-month mortality rates of 6.6% and 4.3% in ED discharges of all cause, respectively[2].
- Elevated CRP levels at ED discharge were shown to be an independent predictor of 7 days ED revisit[3].

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 UTI or Pyelonephritis 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, age groups, referral mode and type of discharge

[1]*Kang et al; Hong Kong j. emergency medicine Vol. 22 (2015)*
[2]*Greenberg et al; Israel Journal of Health Policy Research 7.1 (2018)*
[3]*Ziv-Baran, Wasserman et al; Clinica Chimica Acta (2018)*

RESULTS

- A total of 11,433 patients (77.6% females), with a median age of 45.8 (IQR 28.1-72.2) were included.
- Median ED visit length of stay (LOS) was 3.8 hours (IQR 2.7-5.7)
- the leading diagnosis of the cohort was UTI (N 9517, 83.2%), followed by pyelonephritis (1871, 16.4%) and CAUTI (45, 0.4%).
- Outcomes:
  - **1465 (12.8%) patients had 7 days readmission**
  - **738 (6.5%) were hospitalized in the 14 days** following ED discharge
  - **90 (0.8%) died within 30 days**, of which 86 (96%) age>65
- There were a statistically significant positive correlations between CRP levels, readmission, hospitalization and 30 days mortality (readmission: r_{pb}=0.09, p<0.001, hospitalization: r_{pb}=0.12, p<0.001, mortality: r_{pb}=0.04, p<0.001).

Fig 1. CRP Levels & ED Outcomes after Discharge

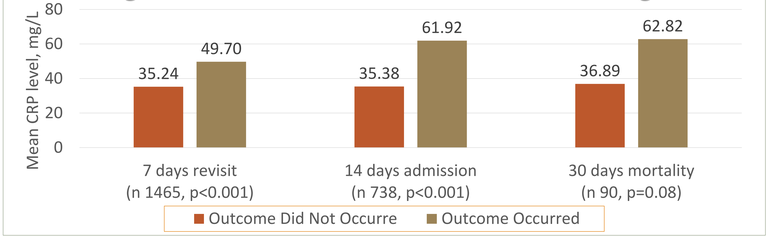
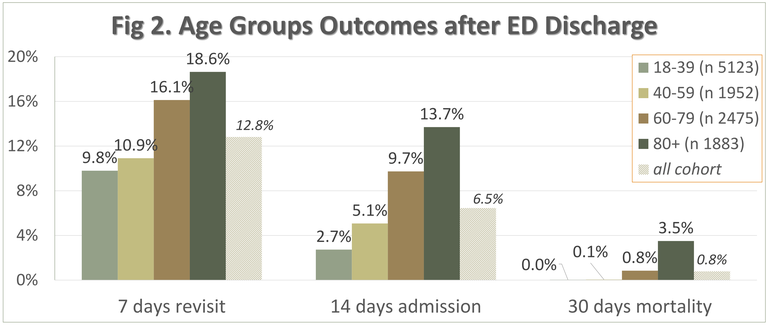


Fig 2. Age Groups Outcomes after ED Discharge



RESULTS (Cont'd)

- Fig. 1 – higher CRP levels at ED discharge were associated with 7 days ED revisit & admission to hospital ward within 14 days.
- In figure 2 age group analysis is shown.
- Patients who arrived by EMS were older than who arrived by physician referral or without referral (mean age 69±22, 49±23 and 44±21 respectively, p<0.001), and had higher revisits, admission and mortality rates. See figure 3.
- Leaving against medical advice (n =400) was also associated with worse outcomes. Figure 4.

Fig 3. Referral Mode

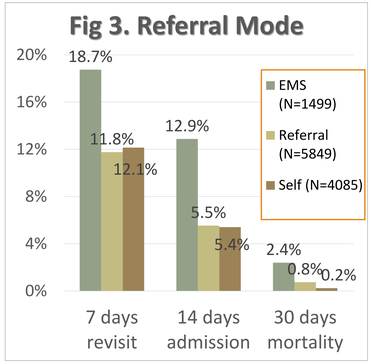
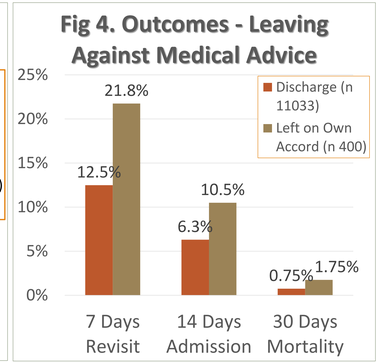


Fig 4. Outcomes - Leaving Against Medical Advice



CONCLUSIONS

- Elevated CRP at discharge was a predictor of revisits and subsequent hospital admission.
- As expected, when discharging elderly population, risk of ED revisit, subsequent admission and mortality is higher.
- Leaving against medical advice bared mal outcomes.
- Our results correlates with the current literature.

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