Healthcare Utilization, Mortality, and Cost of Sepsis Post-Ureteroscopy Among a Medicare Population

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OBJECTIVE

- Sepsis is a serious risk to stone disease patients following ureteroscopy (URS) procedures [1].
- This study examined patterns of healthcare utilization, in-hospital mortality, and costs associated with sepsis post-URS among a Medicare population.

METHODS

Retrospective analysis using Medicare Standard Analytical File (SAF) 5% sample (from January 1, 2019, through September 30, 2020), as shown in **Figure 1**.

Inclusion criteria:

- Having an index URS procedure during index period (from January 1st, 2019, through August 31st, 2020)
- Having an inpatient claim with a sepsis or severe sepsis diagnosis within 30 days following initial URS procedure date (index date)

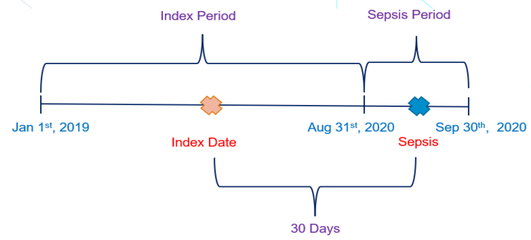
Healthcare utilization associated with sepsis/severe sepsis hospitalization (≤ 30 days post-index date)

- Inpatient length of stay
- Intensive care unit (ICU) visits
- ICU length of stay
- In-hospital mortality
- Medical costs

Descriptive analyses were conducted in the sepsis and severe sepsis cohorts measuring healthcare utilization and costs.

All analyses were performed using SAS version 9.4.

Figure 1. Study Time Period



RESULTS

- 41,136 patients were included in this analysis.
- **Table 1** summarizes the distribution of patients by sepsis and severe sepsis.

Table 1. Sepsis Diagnosis Status within Study Population	
Study Population (N)	41,136
Study Population with Sepsis Diagnosis (N)	22,000
Study Population with Severe Sepsis Diagnosis (N)	19,136

- Percentage of patients with sepsis or severe sepsis diagnosis on their index URS date is shown in **Table 2**.

Table 2. % of Sepsis/Severe Sepsis on Index URS Date	
Sepsis/Severe Sepsis Diagnosis on Index URS Date (%)	79%

Time to Sepsis Diagnosis

- **Table 3** presents time to sepsis diagnosis results.

Table 3. Time to Sepsis Diagnosis	
Mean Number of Days to Sepsis Diagnosis (SD)	3.3 (7.2)
Mean Number of Days to Severe Sepsis Diagnosis (SD)	2.5 (6.5)

DISCLOSURES

This research was funded by Boston Scientific. MM, RP, BC, SB are full-time employees of Boston Scientific.

ICU/Inpatient Hospitalizations and In-Hospital Mortality

- **Table 3** summarizes hospital utilization and mortality data in the sepsis and severe sepsis cohorts.

Table 3. Hospital Utilization and Mortality Rate	Sepsis (N=22,000)	Severe Sepsis (N=19,136)
In-Hospital Mortality (%)	1.6%	7.5%
Patients with an ICU Visit (%)	40.8%	77.6%
Mean Length of ICU Stay (SD)	5.1 (5.1)	6.0 (6.6)
Mean Length of Inpatient Stay (SD)	6.7 (6.7)	9.1 (9.0)

Sepsis-related Medical Costs

- This population incurred significant sepsis-related medical costs (**Table 4**).

Table 4. Sepsis-related Medical Costs Post-URS	Sepsis (N=22,000)	Severe Sepsis (N=19,136)
Average Medical Costs (SD)	$17,211 (21,487)	$27,181 (34,860)

CONCLUSIONS

- Among patients who developed sepsis or severe sepsis post-URS, a majority required ICU care.
- The mortality rate and healthcare costs associated with these cases may place a significant burden on the healthcare system.

REFERENCES

1. Bhojani N. Risk Factors for Urosepsis After Ureteroscopy for Stone Disease: A Systematic Review with Meta-Analysis. J Endourol. 2021 Jul;35(7):991-1000.