

P0656 Impact of treatment duration on the risk of relapse in patients with *Escherichia coli* bloodstream infection

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Background: *Escherichia coli* is a leading cause of bloodstream infection (BSI). Recurrent *E. coli* BSI occurs in 4 to 28% of patients. The desire to prevent relapse frequently induces physicians to treat beyond the resolution of symptoms. However, the impact of treatment duration on relapse in patients with *E. coli* BSI is unknown.

Materials/methods: Retrospective single-center observational study of hospitalized patients diagnosed with *E. coli* BSI, from January 1st 2013 to December 31st 2016. Exclusion criteria: age <18 years, clinical data not available, polymicrobial BSI, failure to receive *in vitro* active therapy, and death while receiving antibiotic therapy. Patients were divided in short (≤10 days) and long (>10 days) treatment groups. Relapse was defined as repeat isolation of *E. coli* from blood cultures, within 90 days after index BSI, in patients with documented clinical cure and completion of therapy for the initial episode. Independent risk factors for relapse were assessed by both Cox regression and Fine and Gray competing risk (death) analysis. Average treatment effect (ATE) of treatment duration was analyzed with the propensity-weighted estimation in Stata 13.1.

Results: Of the 1,248 patients diagnosed with *E. coli* BSI, 856 were analysed. The median days of therapy were 11 (IQR 8-15): 426 patients received short and 430 long treatment course. Relapse occurred in 42 (4.9%) patients within a median of 34 days after index BSI. Independent risk factors for relapse are shown in the Table. A non-significant trend towards fewer relapses was observed in immunocompromised patients treated >10 days (SHR 0.67, p=0.32). ATE for relapse reduction with long therapy was -1.6% (p=0.26) in total population, and -7.1% (p=0.18) in immunocompromised patients.

Conclusions: Our results could be helpful to reduce unnecessary treatment duration for *E. coli* bacteremia, mainly in non-immunocompromised patients and in those with urinary infection as BSI source.

	aHR (95%CI)	p	SHR (95%CI)	p
End stage liver disease	2.59 (1.23-5.46)	0.013	2.58 (1.22-5.46)	0.02
Immunosuppression	4.51 (2.40-8.48)	<0.001	4.67 (2.46-8.87)	<0.001

ESBL producing strain	1.88 (1.02-3.50)	0.04	1.74 (0.87-3.48)	0.12
Urinary tract infection	0.54 (0.27-1.08)	0.08	0.50 (0.24-1.03)	0.06
Treatment >10 days	0.74 (0.40-1.38)	0.35	0.72 (0.39-1.35)	0.31